Lanzahroga Steam Burnace

AMERICAN RAILROAD JOURNAL,

AND

IRON MANUFACTURER'S AND MINING GAZETTE.

ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 105 CHESTNUT STREET, PHILADELPHIA, AT FIVE DOLLARS A YEAR, IN ADVANCE.

SECOND QUARTO SERIES, VOL. IV., No. 5] SATURDAY, JANUARY 29, 1848. [WHOLE No. 606, VOL. XXI.

PRINCIPAL CONTENTS.

Railway Charges in England.....66
A View of the Railways from Maine to Georgia.66
Locomotives for Luggage Trains.....67
Railways as an Investment of Capital.....67
New Haven and Northampton Canal and Railroad Company.....65, 68
Southwestern (Ga.) Railroad.....65, 69

AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 105 CHESTNUT ST. PHILADELPHIA.

Saturday, January 29, 1848.

The Muscogee Railroad.

It will be seen by the following advertisement that proposals will be received until the 10th of February next, at the office in Columbus, Ga., for the grading and masonry of the whole line of the above road to Barnesville.

"We are happy," says the Macon Messenger, "to find our neighbors of the west waking up to the importance of a connection with the balance of the world, and trust, that the day may speedily arrive, when our friend, WINTER, may be enabled to substitute the locomotive and a magnificent train of railroad cars for his present '*coach and four.*'"

We were not aware that this line had been prepared for the spade. Barnesville is in Pike county, a few miles easterly from Griffin.

This road will be nearly parallel to, and about forty to fifty miles from, the South-Western line, as laid down upon the map in our last—a distance which, in New England, would of itself sustain a railroad, but not so in Georgia; we would therefore say to the friends of both lines, better have *one good* road completed *soon*, than *two* commenced, and *neither* brought into use for years. "In *union* there is strength," but divided energies are often wasted, or are of little avail. As we are not, however, well informed as to the circumstances attending these two lines, we will merely say that, if both are commenced, we shall hold the parties to the completion of both—and with this caution we give the following notice, and call the attention of contractors to it.

SEALED PROPOSALS WILL BE RECEIVED until Thursday the tenth of FEBRUARY next, at the Engineer's office in the city of Columbus, for the Graduation and Masonry of the whole line of the MUSCOGEE RAILROAD, to Barnesville, and a bridge over Flint river.

The cuttings and fillings will be marked on the ground, also plans and specifications, exhibited at the office from the 1st to the 10th of February, and any further information given on application.

Payments will be made every sixty days through the progress of the work, one half in cash and one half in the capital stock of the company, and as it is expected that many planters, unacquainted with such work, will be bidders, the estimate of the engineer will be shown in order that they may bid in the form of a premium or discount thereon.

The work is divided into seventy-five sections of nearly a mile each, and where a contractor bids for more than one section, a distinct bid will be required on each.

By order of the Board of Directors,
DANIEL GRIFFIN, Chief Engineer.

NEW PATENT CAR WHEELS.

THE SUBSCRIBERS ARE NOW MANUfacturing Metallic Plate Wheels of their invention, which are pronounced by those that have used them, a superior article, and the demand for them has met the most sanguine expectations of the inventors. Being made of a superior quality of Charcoal Iron, they are warranted equal to any manufacture.

We would refer Railroad Companies and others to the following roads that have them in use. Hartford and New Haven, Connecticut River Railroad, Housatonic, Harlem, Farmington, and Stonington.

SIZER & CO.
January 29, 1848. tf Springfield, Mass.

RAILROAD IRON, PIG IRON, ETC.

600 Tons of T Rail 60 lbs. per yard.
25 Tons of 2½ by ½ Flat Bars.
25 Tons of 2½ by 9-16 Flat Bars.
100 Tons No. 1 Gartshrorie.
100 Tons Welsh Forge Pigs.

For Sale by A. & G. RALSTON & CO.
No. 4 So. Front St., *Philadelphia.*

New Haven and Northampton Canal, and Railroad Company,

We have now before us the annual report of this company. One year has made a wonderful change in its affairs. At the period of its last annual meeting they had barely commenced grading—now the locomotives are passing and repassing to Plainville, nearly 30 miles. Where, but a few months ago, might be seen the canal boat moving lazily through the beautiful "city of elms," and into the country, at the rate of, at least, *two and a half miles an hour*, may now be seen the locomotive, with its long train of cars, darting along under the bridges, at the rate of twenty miles an hour.

This is the third canal in New England which has been superseded by a railroad—the Middlesex, the Blackstone and the Farmington. These, however, are not all the canals, in this country, which will be thus superseded.

The report does not give the details of cost—and therefore we cannot compare its cost with other roads. We shall probably be able to give them hereafter.

The following named gentlemen were elected directors and officers for the following year:

Directors—Henry Whitney, Harvey S. Hoadley, Henry Kneeland, Henry Farnam, and Joseph F. Sheffield.

Engineer and Superintendent—Henry Farnam.
Treasurer—Stephen D. Pardee.
Secretary—James S. Redfield.

South-Western, Georgia Railroad.

We complete, in this number, the report of Mr. Holcomb in relation to his survey of this route. It is very much in detail, and occupies a good deal of space, but having been furnished by him with a map showing the railroads now in use in the south, and the proposed connections and extensions of this line, we have given the report entire.

From the map in the last number may be seen the proposed extension into Alabama and Florida, by which new life and increased value to property will be given to that region.

The following extract from an article in the Macon Messenger, gives, in a few words, an idea of the estimated cost and business of the road; and urges warmly the importance of its early construction, and we hope to see it soon commenced.

"The route, via Fort Valley, Traveller's Rest, and Pondtown, to Fort Gaines, has been thoroughly examined and found to be extremely favorable for the location of a road. It approaches within about 37½ miles of Columbus, and 25 miles of Eufaula, Alabama. The average cost of grading per mile between Macon and Fort Gaines will be only $4,158. To this must be added for iron, say, $3,900 per mile, and for superstructure $1,741. The total cost of the road to Fort Gaines, a distance of 140 miles, including grading, superstructure, iron, right of way, depots, cars, fixtures, machine shops, and every thing complete, is put down at $1,772,264, or an average of $12,666 per mile. If the flange rail at 40 tons to the mile, is adopted, the total cost would be $1,563,040, or $11,178 per mile, and if a lighter iron, (say 32 tons to the mile, the same as on the Central road, should be selected, the entire cost would be $1,490,240, or $10,644 per mile. The report in question is very full and very comprehensive as the intelligent *engineer* and his able assistants have been exceedingly minute in their surveys and calculations. In addition to the above estimates, they give the probable cost of branches to Columbus and Albany.

"In regard to business and income of the road, the report is exceedingly full and satisfactory. We have not room for the reasoning, and must content ourselves with merely presenting the conclusions at which Mr. Holcomb arrived after the most elabo-

rate research. His estimates based upon the actual productions of the county, show that the road will carry of Georgia cottons 30,325,932 lbs., or 71,355 bales of 425 lbs. each. The proximity of the line to one of the richest cotton producing regions of Alabama, induces the conclusion that at least 30,000 bales will be obtained from Eufaula and places contiguous, thus giving the road in cotton alone 100,000 bales. By the experience of all southern roads, it has been found that the return freights are at least equal to those direct. The travel on this route estimated upon the most reasonable basis, is set down in the report at $97,514 00
Add total for freight 195,861 50
" U. S. mail 15,164 00

Total receipts $308,569 50
Deduct cost of maint. and working 128,742 98

Total amount of receipts $179,947 52
Or a little over 10 per cent. on the estimated cost of the entire work.

"We defy any one, who is not prejudiced, to read the report in connection with the article from the pen of Mr. Grantland, and not be convinced that the Southwestern road is one of the most promtsing enterprises in Georgia, not only for the public at large, but for the stockholders. The only difference seems to be in regard to the route to be pursued.—The line recently run was terminated at Fort Gaines. Many think that a point equi-distant between that place and Albany would be more eligible; while Mr. Grantland seems to favor a route still further south in the direction of Bainbridge. The sagacity of that gentleman in matters of this kind will certainly entitle his opinions to much consideration, and we trust that he may yet be placed in a position where his views and the force of his reasoning may be felt. We sincerely trust that, whether the Legislature act wisely in this matter or not, it may be eagerly taken hold of by such gentlemen as Mr. Grantland,—men of intelligence, energy, public spirit, and pecuniary means—men whose views are not contracted, who think and act and feel for the future as well as the present. This opening of a communication with the Gulf through Southwestern Georgia is no new idea. It appears that twenty years ago it was suggested to Governor Forsyth by Mr. Grantland and at his request embodied in his annual message to the legislature. The introduction of railroads has made it possible to accomplish with a few hundred thousand dollars what would then have cost as many millions. It is indeed gratifying to find that this important enterprise has attracted the attention of men of enlarged views in all parts of the State, and that nothing but energy and action seem requisite, on the part of those more immediately interested, to insure complete success."

Railway Charges in England.

We find in the Railway Chronicle for Sept. 25th, the following statement of the *lowest* and *highest* charges authorized by the special acts of 1846, viz:

Animals per mile:—		
Horses	2d.	7d.
Cattle	1½	4
Calves and pigs	0½	3
Sheep	0½	3
Carriages per mile	4	10
Goods per ton per mile:—		
Manure	1	3
Coals	0½	4½
Corn	1½	6
Cotton and general merchandise	4	6
Passengers per mile:—		
First class	2	3½
Second class	1½	2½
Third class	0½	1½

"By reference to the scale of maximum charges authorised in 1845, it will be seen that in some cases the charges authorised in 1846 show a greater variation between the highest and lowest rates than has hitherto occurred; and it must be evident that if the sums mentioned in the first column are sufficiently remunerative, the amounts mentioned in the second column must so much exceed the limit which the interest of the respective companies alone would dictate, so that far from these limitations being of any practical utility, they might, like the Binghampton, Lichfield and Manchester, be authorised to charge 'any sum they may think fit.' The existence of these variations may be attributed to the fact, that while some committees investigate and reduce the scale of charges proposed to be authorised by the bills referred to them, other committees allow these provisions to pass without examination; the recurrence of such variations would be pervented if parliament were to fix the maximum amount of the charges to be allowed by committees in all bills referred to them."

A View of the Railways from Maine to Georgia, in the Course of Construction -- or Planned to Compete with the Erie Canal. --By Joseph E. Bloomfield.

As an old resident of the State of New York, and long a laborer to advance her prosperity, by the advocacy of railways—constructed, and conducted, on sound principles—you must have been surprised and noticed with the regret of the writer, that our governor, in his annual message, has entirely omitted the "*better improvement of the age*;" while he recommends an amendment of the constitution to accelerate the construction of lateral canals to the Erie canal, that are sure to be superseded by railways.

All notice of the *New York and Erie railroad*—now in operation to the Delaware river—and destined finally to reach the Mississippi—a work *not* second to the great Erie canal—is entirely omitted. So also the line of railways from *Albany and Troy to Lakes Ontario and Erie*, as well as the state policy that *taxes private enterprize*, and our own people, during the winter months, when the Erie canal is closed!! Although there is much in the message to commend, yet I cannot but express my surprise in your Railroad columns, that he has not drawn the attention of our legislators, to the gigantic efforts making by our neighbors to relieve the Erie canal of a large share of its increasing trade and tonnage.

In your paper, and others, I have for more than twelve years, repeatedly endeavored to show the manner in which railways have superseded canals in New England, while in Old England they have drawn to themselves nearly all *the valuable traffic* and transportation that required *certainty* and *celerity*—the handmaids to commerce and manufacture. Not valuable goods alone, have sought the railway in England. "Carrying coals to New Castle"—is an old saying, but the taking of them from the mines at New Castle, by railways, to the heart of London, in the face of open coast navigation—a reality of the present day—was little dreamed of, by the most sanguine advocate of railways a few years back. Why is it done? The answer in their publishsd reports is plain—"to avoid the delays incident to a long continuance of adverse winds—with the further delays in unloading, incident to the crowded state of the Thames river, with these vessels on demurage when accumulated by a fair wind." To effect *regularity* in the delivery of a bulky article—expensive to handle, requiringmuch valuable space at the factories and dwelling houtes in London, it has been found advantageous to expend thirty millions of dollars, to connect the interests of the several corporations, to carry coal inland to London, from the principal mining disrict of New Castle.

I am pleased with your report, and your remarks on the benefit the Reading railway has been to the public. But for it, the Delaware and Hudson, the Morris, the Lehigh, the Schuylkill, and Tidewater canals could not have supplied the demand incident to the reduction in the price of transportation caused by the Reading railway, and, I trust, with profit to the company. It is true, as you say, from "the prospects ahead, the friends of the Schuylkill canal and the Reading railway ought to be content, and agree upon rates of toll, mutually advantageous, and the contest should be, who shall give the operators (the miners,) and the shippers, the greatest facilities." In this contest, however, you and I cannot shut our eyes to the fact, that the price of coal is to be regulated on the eastern sea board markets by the labor to raise, and its cost of transportation by railways—not canals. Should the above named works, however, combine to enhance the price of coal, and thus diminish the consumption, you will, I trust, soon have your *Central railway* to your bituminous coal fields; and New Jersey will have the Summerville railroad to the Lehigh region, to regulate the New York coal market. I will add, however, that there will be enough for all to do, to pay good dividends. But I have digressed. I took the pen to briefly advert to the following railway improvements in progress which our governor appears to have forgot. He would, apparently, depend on canals, that in our latitude, can only be used, on the average, from Lake Erie to the Hudson, *six and a half* months in the year—to secure a continuance of the present immense trade on them, mainly centreing in the city of New York.

Governor Young, I will do him the credit to say, is not more incredulous as to the capacity of railways to carry freight, at cheap rates, than his immediate enlightened predecessor. I recollect placing in the halls of our Senate in the winter of 1846 the profile and map of the Philadelphia and Reading road, stating on it, the rates of freight at which one engine had drawn a train of 155 cars with the gross load of 1197 tons from the mines to Philadelphia. So wedded, were senators to the canal policy of this state, they considered it fiction. They could not then be induced to institute an inquiry into the comparative merits of railways and canals, nor have they ever done it since. Had other councils prevailed, or your Journal been more read in high places, this state would not have committed errors that will cost her millions of dollars, (to use the language of our lamented Casey,) "for money wasted as much as if thrown into the sea—a moth on the treasury."

You must excuse me when I say, if our politicians, without regard to party, had been so wedd d to the glory and the popularity of De Witt Clinton—rightfully acquired by the canal policy of his day—before railways were successfully introduced—the present governor would not have omitted to notice and to draw the attention of our legislature to the line of railways projected from *Portland* in *Maine*, to *Montreal*, with the design on the part of the Canadian Government to aid in extending the works north of Lakes Ontario and Erie, to Detroit, St. Louis, and finally to the "far west," by Mr. Whitney's railroad, which he places before the public in such a captivating form, that I am a convert to it.

The statesmen of *Massachusetts* are not satisfied with our tax of canal tolls on the line of railways built by private enterprise, parallel to the Erie canal. It is a burthen to her consumers of our provisions and bread stuffs, greater than is charged for freight and every charge from Albany to Boston—200 miles over her railroads—to wit, thirty-one cents, and at times it has been twenty-five cents per barrel for flour. These rates are fixed to compete with the river and sound coasters. At these rates she has the last season drawn to the railway upwards of 500,000 barrels of flour, *through* freight to Boston, besides that left at intermediate places. This line at these prices, and two and a half cents per mile for passengers has netted 8 per cent. on $12,000,000. Rather than longer submit to our imposition, and our state cupidity (to protect our canal

monopoly, to the injury of our own producers,) the citizens of Massachusetts, New Hampshire, and Vermont, have planned, and unaided by these states, are fast extending a railway from Boston through these states and the north part of our own state to Ogdensburg, the foot of lake navigation. This great work of about 340 miles, is destined to take a large share of the western trade to manufacturing New England. This immense tonnage is being now let down into Lake Ontario by propellers at cheap rates of transportation—by the Welland canal. This route, from the upper lakes, adjacent states and territories—to the ocean, is the cheapest beyond question, if we except our *central*, *level*, or *descending* line north of the Erie canal, of 565 feet descent in 300 miles, to tide water—or the still more preferable and shorter one of only 182 miles from Oswego, on Lake Ontario, to be completed this year.

Pennsylvania has in the course of completion also her "Central railway." This great work, so important to Philadelphia, is to be executed principally by private capital, aided by the city of Philadelphia, to the extent, I believe, of $1,500,000, and will, to a great extent, cure the errors and supersede her present amphibious state works.

In the present indebted state of Pennsylvania, for ill-judged canals, her liberal minded citizens cannot be too much praised, particularly as compared with ours, in their canal mania. Pennsylvania forgets this policy, and is now adopting "*the better improvement of the age.*" The course adopted by Pennsylvania, should cause our Legislature to blush at their *local*, selfish, and state monopolizing enactments; as if our whole people were created for the canals, not these works, to subserve the interests of the people.

I should not—nor did I intend to pass over the great *New York and Erie railroad*.

If half of what its friends predict is true (and I believe them), of its income, and its ability to carry freight at cheap rates—when its branches touch the Erie canal at several points, and at Buffalo, (by the Genesee Valley and the Utica railway, already constructed,) it requires no prophet to point out that the Erie canal will be relieved from any extravagant increase of its business, even when enlarged, should the New York and Erie railroad be extended, as it will, by way of Erie, in your State, Cleaveland in Ohio, Detroit and Chicago to the Mississippi.—The Erie railroad, as it is free from the unjust burthen of canal tolls, incident to the line of roads parallel to our great state monopoly in the winter—with a prohibition to carry freight during the season of canal navigation—there cannot be a question but that this railway will draw to itself a large portion of the merchandise tonnage, as the state tolls (for liberty to the forwarders to carry merchandise,) will be an ample remuneration to the stockholders in the railway. So will the early closing of the Erie canal, and the large quantities of bread-stuffs and provisions now forced on it, to get to a winter market at home and abroad give to this railway and others, from the granaries of the West, a large share of this class of transportation. This will be done to feed, not over-stock, our markets, at extravagant rates of freight as is now too often the case, by canal combinations.

Maryland, after her long delay, but diligent exertions, is sure to complete her *Baltimore and Ohio railroad*. This will be done, if other means do not offer, by the earnings of the road itself, already completed to the Cumberland iron and coal mines, the products of which, the railway will be the great carrier of, all to the contrary that may be predicted in favor of the Chesapeake and Ohio canal. Time will show the truth of this position so soon as the railway is relaid with heavy iron.

The new school statesmen of *Virginia*, have (like those of New England, interested in the Middlesex, the Blackstone and the Farmington canals—obsolete works—) at least begun to forget "the James River *canal* improvement," in which upwards of five million of dollars have been thrown away in vain attempts to extend this communication to the Ohio.—Like Pennsylvania, the citizens of Virginia are concentrating all their efforts on a central railway from Richmond to or near the Gyandotte, or Great Kanawha—with a branch by southwestern Virginia to Kentucky and Tennessee. Much can be advanced in favor of this route, and continuing it to the admirable port of Norfolk, to compete with our northern railways.

South Carolina, one of the first States in the railroad field, is steadily pushing on her important work through Georgia to Nashville. Charleston will probably be the first Atlantic city that will have a continuous line of railways, to steamboat navigation on our Western rivers.

All these *ribs*—as I call them—from the main sea board spine—or *trunk railway* from Maine to Texas, are sure to be completed. How much then has our Governor erred in his late message, by treating only of the Erie canal and its branches, omitting entirely to point out our superior route, north of the Erie canal, on which to construct a level or descending railway from Buffalo to tide-water.

Locomotives for Luggage Trains.

The following article on locomotives, is taken from the proceedings of the Mechanical Engineers.

A paper "On Locomotive Engines for Luggage Trains," was presented by Mr. Beyer, and was read by the chairman. It detailed the results of a series of experiments made with the luggage engine 'Atlas,' on the Manchester and Sheffield line, and made for that company by the Messrs. Sharp. The engine in question belongs to the class called "inside cylinders," containing inside framings, and runs upon six wheels, all of which are coupled. The dimensions of the cylinders are 18 in. diameter, and 2 ft. stroke; diameter of boiler, 3 ft. 6 in., by 13 ft. 6 in. in length, and containing 175 brass tubes, of 1¾ in. outside diameter. The wheels are 4 ft. 6 in. diameter, made of cast-iron, and the fire-box is of copper, 3 ft. 8 in long by 3 ft. 3¼ in. wide, inside, measuring 3 ft. 4¼ in. from the top of the fire-bars to the under side of the roof; the water spaces round the four sides are 3 in., and that of the mid-feather, running across the box, is 4 in. in width. The weight of the engine in working condition is exactly 24 tons. The cylinders are secured to each other by internal flanges, which form the bottom of the smoke-box, and are the principal cross stay between the two frames to resist buffing. The valves, which are in one chest inclined towards each other, being below the cylinders, afford direct exhaustion into the chimney. The weight of the valves is carried by the spindles, made to work through stuffing boxes in both the loose end lids, but are totally unconnected with the boiler. To carry the hind ends of the steel bars, the steam regulator is made with a second disc, provided with two small holes, about 1¼ in. area, which, being acted upon by turning the regulator handle, admits steam into the pipes and cylinders, and thus removes the pressure from the ordinary disc before it is moved, and enables the driver with moderate attention to start as gradually as he pleases. Six of these engines have been constructed by Messrs. Sharp, Brothers, but they merely vary from this in the number and diameter of the tubes; in other respects they are perfect duplicates of each other. Engines of this description are, in addition to those on the Manchester and Sheffield line, at present working on the Manchester and Birmingham and the London and Northwestern lines. The 'Atlas,' which has performed its journeys on the Manchester and Sheffield line, has travelled no less than 40,222 miles between May, 1846, and the end of October, 1847, during which time its consumption of coke had been only 36·53 lb. per mile. Another of these engines, 'No. 30,' on the Manchester and Birmingham line, was tested on the 3d of October, 1846, with a train of 10t wagons, weighing 597 tons, and accomplished the distance between Longsight and Crewe, 29 miles, at the average rate of 13·7 miles per hour. The size of the blast-pipe for running this trip was 3¼ in. diameter, or 8·4 in. The engine in question has since been transferred to the London and Northwestern line, and in June last, when the last statement was compiled, the engine ran 3,004 miles, with a consumption of coke of 0·214 lb. per ton per mile, whereas the next best engine then at work on that line consumed 0·38 lb. per ton per mile. The above description was accompanied by a series of statistical tables and a number of large drawings. Mr. Brooke rose, and proposed that the Council be instructed to request of Mr. Beyer that he will be good enough to place his paper and drawings at their disposal, in order that they may print them, and circulate part of them amongst the members. The chairman observed, in reference to the engines in question, that as far as his experience went,—and he had paid very particular attention to one of the engines that came under his observation,—he had found that in working it had exceeded by more than one-half the performances of the ordinary luggage engines at work upon that railway. The manner in which the engine had worked, and the small amount of repairs required by it, showed very plainly that the plans, construction and quality of the materials were the best that could possibly be given, for the engine had given him less trouble in repairs, and had done more work for the amount of expenditure upon it, than any engine under his superintendence performing the same kind of duty. The provision made for the expansion of the boiler, was one point of the greatest service to the engine; but the whole arrangement of valves, gearing, framing and cylinders reflected the greatest credit upon the party who designed it.—There was no weight thrown away for the fire-box and tubing surface; and he would again emphatically state, that it had done more work than any engine he had known for the same description of duty. Mr. J. E. Clift begged to ask whether there had not been an immense amount of wear upon the wheels. The chairman replied, that the wear of the tire seemed great; but when it was stated that a distance of 40,000 miles had been traversed, the wear was really very small, for the distance was equal to three years' wear. Mr. Beyer observed, that the tires had not been turned during the time it had accomplished the 40,000 miles spoken of, but they would be turned before being again put to work. And in answer to other inquiries, he replied, that he believed the tires would even have worn better had the wheels been of solid cast-iron. The chairman asked if the amount of resistance in the smoke-box had ever been experimented upon? Mr. Beyer replied that Mr. Ramsbottom and he had made many experiments, although they were not then prepared to state the exact results; but the length of the tubes caused a great resistance in the smoke-box. In this opinion the chairman concurred. Mr. Beyer also explained the diagrams of the valve motion.

Railways as an Investment of Capital.

We have more than once had occasion to express the opinion that a judicious investment of capital in railways was the safest that could be made—for the reason that, in the nature of things, from the increase of business, and the reduction of the expense of repairs and management, the net income of the railroad must increase; and for the reason also that the business of railroads is not likely to be affected to the same extent, in times of depression and embarrassment, as is most other kinds of business. Indeed it will sometimes occur that during the prostration and derangement of business generally—and especially in times of war—the travel on railroads will increase.

In confirmation of these views we find the following remarks on the subject in a late number of Herapath's Railway Journal.—He says "so far as the

receipts go there is little prospect of any material diminution in the dividends." It is, says the editor, in the payment of heavy rates of interest for the means to continue their works on new lines, that the dividends on lines now in use may be reduced—rather than in a falling off in the traffic. We give the article entire, that our readers may have the views of one of the ablest writers on railways in England.

We last week briefly hinted our apprehensions, that the last year's dividends at the forthcoming meetings would not generally be maintained. Our opinion is not so much from any falling off in the traffic as from the recent state of the times, and the known practice of railway companies.

Out of thirty three companies in our list in operation last year, and enjoying revenues, there are nine, of which one is a foreign line, whose receipts per mile are less than they were the corresponding week of last year.

These are Edinburg and Glasgow, Eastern Counties, Glasgow and Ayr, Great Western, North Western, Brighton, Newcastle and Carlisle, Paris and Rouen, and York and North Midland. The mileage receipts of the remainder are equal to or above those of last year.

So far, therefore, as the receipts go, there is little prospect of any material diminution in the dividends. One might, indeed, fairly calculate that they would be the same. For, though some of the lines show a considerable mileage diminution of receipts, it must be remembered, that most, if not all of them, divide upon a larger capital, and the receipts are over a greatly increased mileage, which, being constructed at a much less cost the present dividends would not be much effected.—Probably in many cases, the dividends may admit of increase. For, if the mileage be increased more in proportion than the capital is a lower per mileage receipt may give a greater dividend. Suppose, for example, a line costing £50,000 a mile pay 10 per cent. and another line costing £10,000 a mile, paying 12 per cent, be added to it, the average mileage receipts, if the lines were anything like of equal length, would be lower than those of the principal line, while the dividend would obviously be greater. This would be irrespective of expenses to receipts.

We think it necessary to premise thus much, to prevent alarms going abroad of an unfounded character. There is, we believe at present, no ground for alarm on the score of traffic. The trade of the country keeps, if we may judge from the railways, infinitely better than any one had a right to expect, considering the convulsions that we have had. That from which we think the deficiency will come is an increase in the expenses. Almost the whole of our lines in operation have more or less had works in hand, which they either imprudently engaged in without looking before them, or having been engaged in, and been unable to provide for them by calls, have been under the necessity of finding the funds by other means. One course adopted by almost all companies has been, to use the traffic receipts as they came in upon works in progress, and then making calls, or taking up loans to replace the money so used. By this practice they have saved calls and saved interest by putting off calls and loans to the last moment. It is, however, a practice that is attended with danger, and in times like those we have just passed, cannot be followed without considerable sacrifices. The proper course would have been for the companies to pull up at once, and not to have gone on without calling their shareholders together and telling them the state of the case. If they then sanctioned proceeding with the works, it would have been very well. The great error the companies have committed, has been proceeding with works under such difficulties as they must have had to contend with, without going to the shareholders for their approval or advice what to do. It is this which has involved them in difficulties they will not now be able to conceal if they would. Some of them, besides using up their traffic receipts, have been obliged to borrow money at most extravagant rates. Unable to pay their contractors in cash, they have paid them in debentures, ostensibly bearing interest at 5 per ct., but so issued by having a larger sum on them than the actual sum paid, or by allowing whatever premium was required to get them cashed, as to make the interest often at the rate of 10, 12, or more per ct. for years to come. It is asserted, we believe, on good authority, that one capitalist purchased £100,000 of one company's debentures for £70,000, they, (the debentures) having to run three years, and with interest at 5 per cent. which was at the rate of no less then 15 per ct. per annum. We saw a debenture for £2000 of the same time and interest, offered for £1750, which is above 7 per ct. per annum for three years.

It is the payment of these heavy rates that have crippled the companies in their dividends. It is, in fact, the great pressure in the money market, and not any loss of traffic, which, in honestly intended companies will carry down the dividends. Those that are fertile in schemes for adding expenses to capital may contrive still to keep up their dividend, but it must be at the expense of truth and honesty.

Let it not be understood that we condemn the using of the traffic receipts. There is no objection to it nine times out of ten. Indeed it is more generally a saving than a loss to the company; but, in such times as these, we think the directors should do nothing in the way of expenditure, without the particular sanction of the shareholders. Great expense by several companies have been incurred in finding funds for works, which a little prudence and foresight would have taught them to stop, or not to begin. It is for this we blame them, and it is through this the dividends will be diminished. From the difficulties of getting money, we shall not be surprised, if it happen with some lines that they will be obliged to suspend their dividends, or at least, to defer the payment of them to later periods. Shareholders, therefore, however much they may want the money, must not expect such prompt payment as heretofore; nor will it be wise for them to press it.

New Haven and Northampton Canal and Railroad Company.

Twelfth Annual Report.—(2d under the New Charter.)

At the date of the last annual meeting of the stockholders, the work on our railroad had been commenced, and a few miles were partially graded; but the inclemency of the winter prevented much progress before April, when operations were resumed along the whole line, and notwithstanding the delay of three weeks in August, and nearly four in October, caused by the suspension of canal navigation in Pennsylvania, from whence our iron was procured, we have the pleasure to report, that the trains commenced running to Cheshire and Southington on the last day of the year, and that the road is now in full operation to Plainville, a distance of nearly 30 miles; and this has been accomplished without interrupting the canal navigation for more than 30 days during the season, and without accident of any kind.

Although this amount of work has been so speedily completed, the road challenges comparison with any other in the country, not only in its general character, but in its superstructure and equipments; and as it is destined to become the main stem of a great extent of future roads, both in the Farmington valley to Pittsfield, and direct to Springfield, we have run it nearly straight and level instead of following the line of the canal, as was originally intended; prefering to purchase the additional right of way, which has been done and deeds taken for the entire distance, leaving not a single unsettled claim under this head.

Application was made to the General Assembly at Hartford for a continuation of our road from Collinsville to the State line in the Farmington valley, and for a branch from Cheshire to Waterbury, and again defeated; as was also an application for powers to own or charter steamboats and propellers in connection with our canal and road, on precisely the same terms as had been granted, some years since, to the "*Hartford and New Haven Railroad Company*"—thus continuing to that company for another year, the advantages of a monopoly they have so long enjoyed. It is recommended that these several applications be renewed at the next session of the General Assembly, and also for a branch to the flourishing town of New Britain.

In consequence of the great demand for money last spring, and the high rate of interest, always so unfavorable to the advancement of new enterprises, the board did not deem it prudent to enter into contracts for the continuation of the road beyond Plainville; but these causes, (which still continue to operate) have not prevented the payment of the installments of our new capital as fast as they have been required to carry on the works, and the stockholders will learn with pleasure *that we again close the year without any floating debt whatever*, and that the $60,000 five per cent. bonds issued in 1844, the interest of which is provided for by the water contract with the city, and the $12,000 six per cent. bonds issued in 1845, for which it is intended to reserve the 475 shares of stock now owned by the company, constitute the entire indebtedness of the company.

The New York road, now in rapid progress of construction, having come to the fixed determination to pass round the city rather than through it *upon the surface grade*, and as it was deemed very important to this road to form a connection with them on the same grade and in the same depot, and thus secure to ourselves and to this city and the public, the important advantages of a *central* location of all the roads, which our canal so happily affords; and finding it impossible to reconcile the two grades without great expense to both companies, negotiations were entered into in August last, which have resulted in the lease of our road to the New York company for twenty one years, at the rate of $45.000 per annum, payable semi-annually in July and January, the road to be delivered when fully completed to Plainville; and negotiations are now pending for a further lease from Grand street to the basin, for a longer period, which we trust will result in making the bed of the canal available for all the roads which may now or hereafter pass through the city, and yield to this company a further very considerable annual income.

These leases will be laid before the stockholders for examination in detail, and we look for their approval of them with entire confidence, as they will not fail to notice, that while they secure to this company immediate regular dividends on the sixty dollars per share already paid in, *and one half of the net future increase of income* during the whole term of the lease, they at the same time ensure the cooperation of the New York road in the future extensions of ours, while both roads, thus united, may control not only present connection here, but future ones with the Western road at Pittsfield & Springfield—connections which the New York company are not slow to appreciate, and will not fail to make at some future day. The passage of these two roads, and also the 'Air-line road,' when completed, directly through the centre of our city, in the bed now occupied by our canal, *and under all the bridges*, with ample grounds for the *central* depot at a moderate cost, affords facilities which few other roads and few other cities enjoy; admitting, as it will, the constant arrival and departure of trains at all hours of the day and night, without the slightest danger to our citizens; advantages which cannot be too highly valued, when we come to estimate the immense numbers which the numerous roads will hereafter concentrate at this place, to take the great *trunk road* to New York.

In availing ourselves of the bed of the canal through the city, the use of which is now superseded by our railroad, care will be taken to preserve our water power at a point a short distance from town, at an elevation of 92 feet above the surface of the ground in the Centre Green, thus preserving the means of supplying this city at some future day, with a neverfailing flow, nearly equal in quantity to what passes over the Harlem river in the celebrated Croton aqueduct. This great and neverfailing supply of pure water, which other cities are paying such immense sums to procure, may be furnished to the people of New Haven at a very small cost, and at the same time become a source of great future income to this company; estimates of the cost of iron pipes, and such other information as the subject demands, are now being procured, with a view of laying before the city authorities a plan of supplying the water to any extent which the future increase of population may require.

Installments of the new capital have been called in from time to time, as the work progressed, and the shares now stand at sixty dollars, which sum it is well ascertained will be ample, not only to complete and finish up all the works along the line to Painville, but also through the city to the connection with the New York road.

The report of the chief engineer and superintendent will shown in detail the several heads of expenditure; and the usual annual examination of our books by the commissioners appointed by Massachusetts and Connecticut, and their certificate of the same, will show the position of the canal company separate from the expenditures of the railroad.

While it is intended to keep the canal open to such persons as may feel disposed to use boats upon it, and especially that part of it above Plainville, until our road is extended to the State line, it is nevertheless recommended that application be made to the next general assembly for additional powers in using our surplus water to supply the city, and for such other purposes as it may be made available. Applications have already been made for lockage and other water powers along the line of our road, and an offer has been made for a perpetual lease of that part of our canal lying within the State of Massachusetts (from the State line to Northampton, 28 miles)—which of course could not be granted until it is decided at what point our future extension will unite with or cross the Western road; whether by Westfield to Northampton, or more directly connect with the great line of Connecticut River Valley roads, at the new city of Hadley, or be limited to a connection at Springfield alone In these numerous and valuable water powers, already available for *immediate occupancy without expense*, and in our twenty-one acres of basin and wharf property in the centre of the water front of this growing city, which basin may be made the termini of all the roads, the stockholders have a sure source of income, independent of the railroad, which it will be the duty of the directors to cherish and improve.

In relation to the future income and prospects of the company, the history of all well built and well managed railroads in New England warrants us in expecting, under the lease to the New York company, constantly *increasing regular dividends;* while to our canal and basin property and water powers, we may look forward with great confidence for very handsome contingent ones; and as provision has been made in the lease for the means of extending the road, and as the amount already called in, it is believed, will be ample to complete all the works now begun, it is not intended to call upon the stockholders for any further installments during the present year. If, however, it should be deemed important to carry our extension to the State line near Springfield without delay, and without aid from the New York road, and thus connect with the 200 miles of valley road now in operation, or in course of construction, bringing to our road and to the New York road a large share of the business of that very populous and thriving part of New England, the remaining forty dollars per share may be called in, and will be ample for that purpose, and the whole work may be completed during the present year: thus enabling the New York road, of which ours becomes a continuation, to run through to Springfield as soon as they are open to New Haven; and ours being a level straight road, may be run in shorter time to Springfield than the present road via Hartford, on the east side of the mountains.

With nearly thirty miles of the best railroad in the country, running through such a region, and connecting as it will with such extensive lines of road, and out of the way of steamboat competition, for the small sum of $720,000 ($60 per share) including all the property of the canal, (which cost nearly two millions) now made more or less valuable by this road; and in view of the future increase of business and travel, which increased facilities always create, the stockholders may rest assured they have not made a bad investment of their money.

Should these extensions not be made this year, or not be made at all by this company, a reduction of salaries and curtailment of all general expenses may be made after the delivery of the road to the New York road, under the lease, which is intended to be done on or before the 1st of July, up to which period it is proposed to continue to pay interest on the $60 per share paid, at the rate of six per cent. per annum; and after that time regular dividends of the income of the company from all sources whatever.

Respectfully submitted, by order of the board,

Jos. E. Sheffield, *President.*

New Haven, January 19, 1848.

Southwestern Railroad.

Report on the Preliminary Surveys and Estimates for the Southwestern Railroad from Macon to Fort Gaines, on the Chattahoochee river, and the Gulf of Mexico; with Branches to Columbus and Albany. By F. P. Holcomb, Civil Engineer.

Continued from page 54.

ALBANY BRANCH.

Of course it is expected by the friends, and of the friends of the Southwestern railroad, that a lively interest will be felt and manifested throughout Southwestern Georgia, and that all will contribute towards its construction, in proportion to the benefits to result from its completion. That it will add greatly to the profit and convenience of all throughout the whole extent of that fertile region, there can be no question. But all, of course, cannot be benefited alike; and the amount, or degree of benefit, must depend upon the remoteness or proximity of the road.

In order to diffuse the advantages as fully

as possible, and to render tributary to the work, the largest possible extent of country, the plan embraces a branch railroad to Albany, from a point in Stewart county, already alluded to.

The citizens of Albany, by looking at the question in its true light, will discover I think, that their best interests will be promoted by the construction of such a branch, having its terminus at Albany, in preference to a position on the main line.

It will not be difficult to perceive, that the latter position would only secure to Albany a business entirely local in its character,—while by becoming the terminus of the branch, it will then be the focus of the trade and business of Baker, Decatur, Thomas, Lowndes, and parts of Irwin and Dooly counties; and would doubtless attract trade from beyond the Florida line, a distance of about sixty miles. I think it will be impossible to show, that this is an extravagant, or improper view of the matter.

An approximate estimate of the cost of this branch will be given; the country, as before stated, being highly favorable. The distance being variously estimated, at from forty to forty-five miles, from Albany to the point of intersection on the main line, about seven miles south of Richland, or Box Ankle, the estimate will be based upon a distance of forty-two and a half miles. This would make the whole distance about one hundred and fifty-five miles to Macon, and one hundred and ten to Columbus—should business or pleasure ever lead the citizens of Albany, or this portion of Georgia, in that direction.

RIGHT OF WAY.

I am happy to state, that during the progress of the survey, in nearly all cases, we have been greeted with a cordial welcome; and the liveliest interest has been manifested in the success of the enterprise. While alluding to this subject, I will take occasion to compare the state of feeling immediately along the route pursued by the survey, to that which experience on other works of the kind in the State, has been brought under my notice.

The contrast is so strikingly in favor of the route in question, that in negotiating for the Right of Way, the most favorable result is looked for; or should any individuals, contrary to what is now anticipated, be disposed to exact unreasonable damages, and appeal to the courts, the state of public feeling, unlike what has been, unfortunately, the experience in too many instances on other works, would without doubt, protect the company against exorbitant demands.

The Right of Way is, however, estimated at the average price on the Central railroad, in consequence of the lands being generally of greater value.

CHARACTER OF ROAD.

Before proceeding to the estimates, it will be proper and necessary, to allude to the minimum radius of curvature, the dimensions of the cuts and fills, the form of the wooden superstructure, and the weight and dimensions of the rail, on which the estimates are based. These different subjects will be referred to under their respective heads.

MAXIMUM GRADE.

In estimating the cost of preparing the road bed, the question of the maximum rate of inclination, has a very important bearing—as the indulations of the surface of the ground traversed by the line, must be reduced to this standard; with reference to this' are necessarily regulated by size and capacity of the locomotives employed, and consequently the weight and strength of the rail necessary to sustain them. Of course the capacity of the road for business is limited or extended, as this standard is lessened or increased. Hitherto, a very low limit has been established and adhered to, on the southern roads; and hence, probably arises the large amount of business borne by these roads, though less expensively, and consequently, perhaps somewhat less substantially built.

It is too much the case, however, I cannot forbear to remark, in instituting comparisons between railroads of the north and south, to judge of their capacity and durability, by the relative cost of each; when this additional cost is frequently, and indeed generally, the result of expensive cuttings (frequently of rock) and embankments, and costly viaducts and tunnels—which, though adding to the cost, diminish their value in nearly the same ratio, by the outlay which is necessary to maintain those expensive works. The average cost of grading the northern railroads, is not less than fifteen thousand dollars per mile, against, say five thousand for the grading of the southern roads. Here is, then, ten thousand dollars per mile expended on the northern works, which gives them no additional value or advantage, the contrary being the case.

With this large expenditure for grading, grades of from fifty to eighty-three feet per mile, are necessarily submitted to. Thus far, then, the cost is no criterion of the capability or permanence of the railroads of the north, as compared with those of the south—as the facts of having cuts five or fifty feet in depth, a tunnel or a surface graded by nature, have no bearing in settling the comparative value of railroads—certainly not in favor of those at the north.

The difference between a good work of this kind, or a bad or indifferent one, consists of light grades and easy curves, as compared with heavy and sharp curves—and a substantial and durable superstructure, and heavy and perfect rail, as compared with their opposites. In this latter respect, the weight of the rails, some superiority must be and is willingly awarded to the northern roads. But as regards the wood work of the superstructure, the same deterioration is applicable to both. But I need not say how much the south has the advantage here, from the abundance and cheapness of this material—for which, of a proper kind, the north is, to a considerable extent, dependent on this region. On the score of curvature, the southern roads have the advantages in as great, or greater ratio, both as regards the number and radii.

There is, then, no superiority in these respects; and the difference between northern and southern railroads, resolves itself into a slight superiority in the weight of the rail. But in connection with this conceded fact, it should be borne in mind, after all, that this superiority is not greater than the difference in the ruling grades there and here, and that the lighter engines required by the ruling grades here, to drag trains of the same weight, are not more destructive to the southern roads, than the heavy engines (reaching as high as twenty-eight tons) are to the rail roads of the north, equipped with the heavier rail alluded to—but which is by no means universal. And I hazard nothing in saying, that a comparison between the speed, the freighting business done, and the cost of maintainance, will show that this boasted superiority does not exist in fact; that the difference in cost, is but little more than the amount sunk in contending with the obstacle that nature has interposed—without adding to their capacity or permanence; while the south has been singularly favored in this respect.

It will be seen, therefore, that the remark sometimes heard at the north "I have no confidence in your cheap railroads"—rests upon no real foundation; and it is by a remark like this, falling from a person of some eminence in connection with the railroad system, that I have been led into these observations. That some, perhaps many, of the northern railroads have paid, thus far, better dividends, is perhaps true; which is accounted for at once, by the fact of the comparative sparseness of southern population.

This digression, which I fear will be considered unwarranted, will make it necessary for me to close my remarks under this head in a few words. As before stated, the limit to which the grades have been carried at the south, is thirty-seven feet—one of the most important railroads of this state (the Central) not exceeding thirty. But it was my object to show, in the remarks on this subject, that this limit might, without hazard, be exceeded—still keeping within a low limit; and I would here propose forty-five feet as that limit—though the maximum on which the estimates are predicated, is forty feet.

This, in the cost of grading, would effect a saving of probably twenty per cent. And as it is proposed to make a superior track in all respects, the rail which is contemplated will render this, it is believed, in no degree objectionable. I shall close this part of my remarks by submitting, in another place, a table of gradients, or inclinations, on the Western railroad of Massachusetts, and a table of the weight, etc., together with the speed and capacity, on different grades, of the Messrs. Baldwin & Whitney's engines—which will apply, probably, nearly equally well to the engines turned out at other establishments.

CURVES.

I shall dismiss this topic with but one remark—that in no case will a curve of under two thousand feet radius be necessary, and generally much above this limit. The cost of the work would not be materially lessened, by the adoption of a lower standard—

while the usefulness of the road might be considerably impared. The abrasion which takes place between the outer rail on sharp curves, and the wheels, leads to the rapid deterioration, and final destruction of both, independent of the resistance which is the necessary consequence.

Curves of eight hundred feet radius, are submitted to, on some of the northern railroads. On the Western railroad, the minimum radius is eight hundred and eighty-two feet.

DIMENSIONS OF THE CUTTINGS AND FILLINGS.

The estimates are predicated on a width for the cuts, at grade, of sixteen feet, and for the fills, of fourteen feet; with, in the former case, slopes of nine inches horizontal, to twelve vertical, and in the latter, fifteen inches horizontal, to twelve vertical.

In regard to the widths of the cuttings and fillings, they are, perhaps, somewhat less than are common, especially the former; but I am satisfied of their being found ample. In the cuts all that is necessary, is sufficient room for thorough drainage; and for this purpose, it is believed to be better, that the inner slope of the ditches or drains should commence immediately at the end of the cross-ties, in order that the water that accumulates around them in wet seasons—causing in some instances, what is called *churning*—may run off with freedom.

A width of sixteen feet affords sufficient space for the drains under this arrangement, especially in the tenacious clay soil of this region, rendering it practicable to cut the outer slopes of the drains perpendicular.—This tenacity of soil, is our guide and safe guard in adopting the slopes which have been proposed above.

For the widths of the fills, twelve feet would be ample, but for the deterioration and washing of the embankments, which is the result of frost, rain, etc., but which, in any event could only lead to the necessity of occasional renewals of earth, which would not unfrequently be afforded by the earth washing down into the drains, from the slopes of the cuts, and requiring to be removed. It is believed that with the character of soil described above, the wash would be rather increased than diminished, by increasing the horizontal dimensions of the slopes.

SUPERSTRUCTURE.

The superstructure admits of various forms and modifications, without greatly affecting its cost. Three plans have been principally resorted to on the works of this State. The first, with notched cross-ties, is too common in different parts of the country, to require any particular reference to it. This form however, has not been extensively adopted here.

The second consists of cross-ties of about eight by eight inches, and eight feet long, laid four feet apart, receiving upon their upper surface, a stringer of eight by eight inches, treenailed to the ties by a single treenail at each intersection. No difficulty has been experienced with this form of superstructure, by a failure of the treenails or spreading of the track. It is becoming general with each form of superstructure in use, to fill the track with earth, nearly level with the top of the stringers, from which a very considerable advantage is derived. The decay it is believed, if not lessened, is not increased; and the track is more firmly held in adjustment. In the event of running off the track, the injury to the machinery and cars, and danger to persons, is much less.—On this latter point, I will take occasion to remark—that while the railroad system has been in operation in the State of Georgia, since about 1836, not a single accident has occured, attended with the loss of life or limb, to a passenger; and there has been for some time complete and in use in this State, six hundred miles of railroad.

The plan of filling the track with earth, has been copied from the Central railroad, where it was first adopted to the extent alluded to.

The third form of superstructure, is that in use, exclusively on the Central railroad, where its merits have been fully tested and established. This consists of cross-ties, six inches by twelve, and eight feet long, laid flat-wise, eight feet asunder. On these are laid stringers, also flat-wise, six inches by twelve, fastened as in the other case, with a single treenail at each intersection. On the centre of these stringers is laid the rail: and about one half of the distance, or one hundred miles, being plate rail, it is supported on a ribbon, or small scantling, to afford room for the flanges of the wheels.

Each of these forms of superstructure has been occasionally underlaid with a mud sill.

It will be seen that the latter depends considerably upon the broad surface of the stringers for the bearing, and not as in the other forms, wholly upon the cross ties. This plan of superstructure, where timber is abundant and cheap, combines many advantages; and has stood the test of ten years experience, without offering, I believe, any reason to warrant, in the opinion of the chief engineer, the slightest change in its form.

The estimates are based upon this form of superstructure—though any other form would not materially effect the cost, as before observed.

FORM AND WEIGHT OF RAIL.

The form and weight of rail is a matter of the first importance. Science and ingenuity have for a long period taxed themselves on these points, but the question of the best form is still far from being settled.

The abundance, cheapness and excellence of the timber along the line, will make it advisable, without doubt, to lay the rail, whatever form is adopted, upon a continuous bearing or stringer—as has been the almost uniform practice on the roads of this State, and of the south.

By this plan the same strength and stability are obtained, without approaching the limit of weight to which the rail has gradually attained in England, and which it is now approaching on some of the railroads in this country.

Four kinds of rail, principally, are in use upon the works of the south, the plate, flange, bridge or Ω and ⌋, rail. I might also include the L rail, in use upon the Charleston and Hamburg railroad.

The plate rail, where it has been adopted in this State, has been generally of much larger dimensions than elsewhere.

This is the solution of the circumstance of the large amount of tonnage that is annually borne over the roads equipped in this manner here, and of the satisfactory speed that is maintained on them, by the passenger trains—with the freedom from accident, and I might add irregularity, before alluded to.—The plate rail in use on the lower half of the Central railroad has been in use, much of it, for ten years, and is still nearly as perfect as the first day it was laid down, as I am informed; the principal objection to it, being some additional wear of the machinery and cars.

The next form is the flange rail. In this form of rail, the spike holes, instead of perforating the centre of the bar, as is the case with the plate rail, are through what is called the *flange*, on the outer edge of the bar; this flange being sufficiently thin to admit of the spike heads being driven below the surface of the rail. This form has no tendency, like the lighter patterns of plate rail, to break at the spike holes, or to form *snake heads*. It will be seen that this form of rail possesses very superior advantages over the form just alluded to, of the same weight.

The bridge rail, is a third, and much approved form for continuous bearings. This rail is somewhat in the form of an inverted Ω, and hence the name by which it is sometimes known. One important advantage to which this form of rail may lay claim, is the very effective manner in which the joinings, or splicings, may be effected; rendering, by a very simple arrangement of parts, and displacement of very unlikely occurrence. This consists of a chair, so shaped as to grasp the lower webs of the rail, by jaws or lips, turning over from either side of the chair, and a tongue projecting up from the middle. The lips prevent any motion vertically, that is not common to both rails, at the same time that they assist in preserving the rail in its place, horizontally—while the tongue which projects up into the groove, or hollow, effectually accomplishes the latter object. This was first suggested and put in practice, by the chief engineer of the Central railroad, L. O. Reynolds, Esq.

When the importance of a perfect joining of the ends of the rails is considered, as from imperfections here, more than from all other causes, it is believed, result accidents to the trains, by leaving the track, the superiority of that form of rail affording the most perfect joining or union of the ends, will be discovered. This, however, is but one among the many merits that may be claimed for the bridge rail for continuous bearings.

To the ⌋ rail for detached bearings, is now generally awarded the preference. But for a rail of the size which will be proposed for this work, laid upon stringers, experience shows, that too large a portion of the materi-

al is expended in the lower web, to obtain the necessary base to afford the rail stability, and preserve it from canting. The bridge rail affords by its form sufficient base, with a smaller exbenditure of material.

It has not been proposed, in the remarks under this head, to more than glance at the subject of the merits of different plans of rails —were it in my power, which is by no means the case, to throw light upon this intricate and weighty subject, as connected with rail road economy.

With the continuous bearing, as before remarked, it will be unnecessary to more than approximate to the weight of rail which has obtained in some other parts of the country, under different circumstances—still keeping in view, in their fullest extent, what should be the aim of the Southwestern railroad, speed, certainty and safety of transit. The estimates are therefore based upon a bridge rail, of sixty tons to the mile, as best, and fully calculated to satisfy all the conditions.

ESTIMATES OF COST.

In submitting the estimates of cost, it is thought unnecessary to go much into detail. The estimates have, therefore, been prepared in full, and are open to such persons as may desire to inspect them.

I would remark, generally, that the estimates are believed in all cases to be full and ample; and of the two errors, the aim has been to make them too high, rather than too low. The prices actually paid in the State of Georgia, for the last two or three years, for work of a similar kind, have been fully come up to, and in some cases exceeded. Should the estimates for any part of the work, from causes connected with the price of labor and provisions, prove less than it should finally be contracted at—but it may reasonably be supposed that the contrary will be the case—we have a considerable margin to cover it, in the excess of the items of excavation and embankment, over what it is believed will be the result by a located line, especially if a maximum grade of forty-five feet to the mile, should be adopted; and on the superstructure in the diminution of distance, from the same cause.

The present, however, is believed to be in all respects, a highly propitious time to enter upon the prosecution of this great enterprise —as from the low price commanded by the staple product of agriculture, an additional avidity may be reasonably anticipated, to engage in works of this kind.

It is thought advisable, to present the gross result of the several items that go to make up the cost of grading, in sections of five miles, which will exhibit the relative, and actual cost, of the different parts of the line, for this item.

APPROXIMATE ESTIMATE OF GRADING.

From Macon to northern line of Randolph county	$497,713 69
And from northern line of Randolph co. to Fort Gaines	84,409 21
Total cost of grading from Macon to Fort Gaines	582,122 90
Average cost per mile of grading from Macon to Fort Gaines	4,158 02

ABSTRACT ESTIMATE OF ONE MILE OF SUPERSTRUCTURE.

60 tons of iron rails, a $65	$3,900 00
Timber and other materials, laying superstructure, and filling track	1,741 92
Total	5,641 92

COST OF ROAD.

Grading, masonry, and bridging	$582,122 90
Clearing and grubbing	23,333 33
Right of way	26,639 20
100 road and farm crossings, a $12	1,200 00
Grading and superstructure for 13 turn-outs, a $1000	13,000 00
13 ware-houses, cisterns, pumps, and wells, a 600	7,800 00
Depot at Macon, with ware-house, passenger house, shop, side tracks, turn-tables, etc.	20,000 00
Depot at Fort Gaines, with ware-house, etc; etc	10,000 00
140 miles of superstructure, a $5,641 92,	789,868 80
Engineering and contingencies	75,000 00
Total	$1,548,964 23
Average cost of road per mile	11,064 03

COST OF EQUIPMENT.

15 locomotive engines, a $7,500	$112,500 00
4 passenger cars, of superior make, delivered in Macon, a $2,250	9,000 00
4 baggage cars, a $700	2,800 00
150 freight cars, a $600	90,000 00
Tools, fixtures, and machinery for shops,	10,000 00
Total cost of equipment	$224,300 00
Total cost of road and equipment	1,773,264 23
Average per mile	12,666 17
Adopting the flange rail of 40 tons per mile, the cost of the road would be	$1,339,740 23
Equipment	224,300 00
Total cost of road and equipment	1,563,040 23
Average per mile	11,178 85
Adopting 32 tons to the mile, (the weight of the Central railroad plate rail,) the cost of road would then be	$1,265,940 23
Equipment	224,300 00
Total cost of road and equipment	1,490,240 23
Average per mile	10,644 57

APPROXIMATE ESTIMATE OF COLUMBUS BRANCH.

37½ miles of grading, at average of main line $4,158 02	$155,925 75
Clearing and grubbing	6,249 99
Right of way	7,135 50
30 road and farm crossings, a $12	360 00
Grading, superstructure, etc., for three turn-outs, a $1000	3,000 00
3 ware-houses, cisterns, pumps, etc., a $600	1,800 00
Depot at Columbus, with ware-house, passenger house, shop, side tracks, etc.	15,000 00
37½ miles of superstructure, with flange rail of 40 tons per mile, a $4,114 67	154,300 12
Engineering and contingencies	25,000 00
Total	$368,771 36

APPROXIMATE ESTIMATE OF BRANCH TO ALBANY.

12½ miles of grading, a $2000	$85,000 00
Clearing and grubbing	7,168 73
Right of way	8,195 60
30 road and farm crossings, a $12	360 00
Grading, superstructure, etc., for three turn-outs, a $1000	3,000 00
3 war-houses, pumps, cisterns, etc., a $600	1,800 00
Depot at Albany, with ware-house, passenger house, shop, side tracks, etc.	10,000 00
42½ miles of superstructure, with flange rail of 40 tons per mile, a $4,114 67	174,873 47
Engineering and contingencies	25,000 00
Total	$313,397 80

COST OF MAINTENANCE AND WORKING.

The cost per annum of maintaining the road, as derived principally from the working of the railroads of this state, may for the wood work, be estimated as equal to a renewal once in seven years, or about fifteen per cent.; for the iron as equal to a renewal once in twenty years, or five per cent., but which, in this case, in consequence of the superior character of rail proposed, will be estimated at three per cent.; and the deterioration or washing of the earth work, at one per cent.

These items will be as follows:

15 per cent. on cost of wood work	$28,898 22
3 " " iron	18,233 93
1 " " earth work	5,382 15
Total	52,514 30
Average per mile	375 10

The cost of working the road, will, of course, depend very much on the amount of business done. I shall take the experience on the Central railroad, as the guide in this case—as facts will be preferred to theories.

On that work, the ratio of the cost of working to that of maintenance for 1845, was as one hundred to seventy-three; and for 1846, as one hundred to sixty-nine—showing of course an increase as the business of the road becomes extended. This gives us, taking the latter year, for the cost of working the South-Western railroad—one hundred and forty miles—the sum of, $76,107 68

To which, add cost of maint., 52,514 30

Total for maint. and working, 128,621 98

BUSINESS PROSPECTS.

It is well known that railroads possess a creative power, or in other words, a power to give value to numberless articles, which, from their weight, bulk, and distance from market, possessed little or none before. This is strikingly instanced, by the value that has been imparted to various products along the existing lines of improvement, which a few years ago were not thought of as entering into the elements of commerce, from these, then remote regions. To specify these articles would be a lengthy, and probably unnecessary task; but they go far in making up the business results of the works alluded to.

Laying this peculiar characteristic or property of railroads aside, however, and looking to the business resources as they at present exist along the proposed line of improvements, we shall find mainly but one article, the great staple of the country, for the production of which the region traversed is unsurpassed, seeking an outlet by the proposed channel; or at all events, this commodity, cotton, will be relied upon, as constituting alone the freighting business, seeking the sea-board.

It will be proper to indicate the region or belt of country from which this business is to flow. I have therefore specified the counties, or parts, regarded as tributary to the proposed work, with reference to transportation—without, however, embracing by any means all that would be dependent upon it, for purposes of travel, and intercommunication.

Should it be thought that any part of the country designated as contributing to the business of the road, is too remote for that purpose—there are other sections that have not

been embraced, that would fully make up the deficiency. In this light we may regard parts of Crawford, Talbot, etc.

The crop of each of the counties of Georgia, relied upon, as swelling the business of the road, as derived from the census of 1840 is submitted opposite the name of the county, as some guide, though a doubtful one, it is true, to the crop of the present period.

Counties.	*Crop in lbs.*
Houston, (half,)	3,179,651
Macon	1,379,600
Dooly	2,576,795
Marion	3,258,232
Sumpter	980,000
Stewart	4,981,937
Muscogee, (half,)	593,495
Lee	1,067,140
Baker	815,473
Randolph	327,067
Early	1,057,898
	20,217,388

The increase of population in these counties, by the best data in my possession, a comparison of the votes of 1841 and 1847, is about thirty three and a third per cent. But it is believed perfectly legitimate to estimate the increase of product at fifty per cent.—when it is remembered that extensive plantations have been established there since that date, which, owing to a want of salubrity of climate, incident to a new country, (but now fast wearing away,) are not represented by the votes of the proprietors.

This ratio of increase gives as the amount of present production, 30,325,932 lbs., or 71,355 bales. This, it is believed, is below the mark; as the amount of cotton shipped at Appalachicola, is 150,000 bales—which amount it is difficult to account for, without supposing a larger product from this region, but a part of which finds its way to the gulf, than I have assigned to it.

Of the above amount, 71,355 bales, in order to make it obviously and unquestionably the interest of the planter and merchant to patronize the road at all times, and stages of the rivers, and under all circumstances, it may be necessary to carry 11,221 bales, at fifty cents per bale—say from the neighborhood of Fort Valley; 13 963 bales, at seventy-five cents—say from Flint river; and for all westward, 46,171 bales, (exclusive of Alabama cotton,) we will say at one dollar per bale.

These items will stand thus:

11,221 bales at 50 cents	$5,610 50
13,963 " 75 "	10,472 25
46,171 " $1 "	46,171 00
Total	$62,253 75

If to this we add, as the amount of cotton Alabama would furnish to the road, 30,000 bales, which is believed to be entirely within bounds—as at one point alone. Eufaula, the receipts are to this extent—we have,

30,000 bales at $1	$30,000 00
Add previous amount	62,253 75
Total of cotton, or down freight,	92,253 75

It seems to be a rule pretty well established by experience, that the up, or return freights, are equal to the down. By reference to the reports of the chief engineers of the Central and Georgia roads, for the year 1846, I find the average ratio of the up freights to the down, as ninety-four to one hundred—and I presume the reports for the present year, on both those works, will show an excess of up freights. This sustains so well the first position, that I shall regard the items of up and down freights as equal.

Under the head of business prospects, I place the freighting business first in order, as it is first in importance, on the railroads of the south; as no great success has been arrived at here, without this important element of prosperity—notwithstanding the impression at the north, already alluded to, of the want of adaptation of the southern roads to this purpose.

I shall now consider the subject of travel, beginning with local travel. By comparing the amount of local travel on the Central railroad, for the year 1846, with the population of the counties through which that road passes, and which are tributary to it,—and instituting the same proportion between the population of the counties traversed by, and tributary to the South-Western railroad, we have 19,562 way passengers. The average amount paid by each will be estimated at two dollars; or fifty cents less than the average paid by local travellers on that road.

Under the head of through travel, I shall consider such passengers as travel the whole length of the road between Macon and the Chattahoochee, or between Macon and the nearest point of the road to Columbus.

In regard to the former, it is difficult to form any estimate which can pretend to much accuracy. These passengers would consist of citizens of Georgia, Alabama, and Florida, who would reach this point, by private and public conveyances—during the season of navigation, a large number, probably by the river. If it is borne in mind that this would be by far the best, and in fact, only outlet deserving that name, in the direction of the Atlantic, for the citizens of South-eastern Alabama, and West and Middle Florida, I shall not be thought to overstep the mark, in estimating from these sources ten passengers a day, each way, and it will be a matter of surprise, if it does not very much exceed that number.

In forming an estimate of the amount of travel between Macon and the nearest point to Columbus, or the point where the South Eastern railroad will intersect, when constructed, I shall claim, independent of the travel between the two cities, a share of the long traved, or between New York and New Orleans—even in the absence of the South-Eastern railroad.

To show on what this claim is based, I submit the following comparison of distances, etc., from Auburn, on the Montgomery railroad, to the Atlantic—at Savannah and Charleston.

TO CHARLESTON, VIA. ATLANTA, ETC.

	Miles.	Fare.		Hours.	
Auburn to Griffin	97	$11 00	Time,	24	Stage
Griffin to Atlanta	43	1 50	"	3	r. r.
Atlanta to Augusta	171	7 00	"	11¼	"
Augusta to Charleston	136	6 75	"	7¼	"
Totals	447	26 25		46	

TO SAVANNAH, VIA. SOUTH-WESTERN RAILROAD AND MACON.

	Miles.	Fare.		Hours.	
Auburn to S. W. r. r.	73	$7 30	Time,	17	Stage.
By S. W. r. r. to Macon,	75	3 00	"	4	r. r.
Macon to Savannah	190	7 00	"	11¼	"
Totals	338	17 30		32¼	

This, it will be perceived, shows a difference of one hundred and nine miles in distance, eight dollars and ninety-five cents in cost, thirteen hours and a quarter in time, and five hours and a half less staging, in favor of the route, via the South-Western railroad and Macon, to Savannah. I think this must be regarded as irrefragable proof of the capabilities of this route to participate, at least to the extent of one half, in the thro' travel, especially when considered in connection with the arrangement which has recently been perfected, to place a line of first class sea steamers on the route between Savannah and New York; affording to the traveller every possible facility for the prosecution of his journey, which he could enjoy in Charleston, both as regards the expenditure of time and money.

I shall therefore estimate, to keep within moderate limits, ten passengers a day from this source—five each way. I shall also estimate an equal number, for what might be called the local travel, between Macon and Columbus.

Combining all these items of travel, we have,

7,300 passengers from Macon to the point nearest Columbus, at $3	$21,900 00
7,300 passengers from Macon to Fort Gaines, at $5	36,500 00
19,572 way passengers, at $2	39,144 00
Total for travel	97,544 00
Add total for freighting	195,861 50
Add for United States mail service	15,164 00
Total receipts	308,569 50
Deduct maintenance and working	128,621 98
Net annual receipts	179,947 52

This is a trifle over ten per cent. on the cost, $1,773,264 23.

It will have been seen that these estimates of business are confined entirely to existing facts, with reference to both travel and production. Were we to indulge in a prospective view, the remarkable fertility of the country traversed by the line of the South-Western railroad, already attracting large accessions of population, but which the proposed work would do much to stimulate and hasten, we should find it full of encouragement, since we already discover in its present population and products, every warrant for the undertaking.

But there is another view, even more full of promise than the former. I now allude to the completion of the work to the Gulf of Mexico. The results which would follow, could not fail, so far as the interests of the South-Western railroad were concerned, to be stupendous.

But I shall attempt no estimate of the accession of business and travel which would follow this consummation; since it might have more the appearance of wild conjecture, than of sober reality. To confine ourselves to any thing like existing facts, however, in

calculating the number of passengers which would take this route, when the Gulf at Pensacola or St. Andrews, should be put in connection with the Atlantic at Savannah, by a line of railroad, would be the extreme of error. It is supposed that upwards of one hundred passengers daily leave New Orleans for the north, by the river. How small a number, as compared with this, pass at this time through Alabama and Georgia, need not be told. That the South-Western railroad, when complete, would change the direction of a very considerable portion of this travel—that destined for East Tennessee, and a large region of country in that direction, as well as for the north—the facts I shall present will place beyond doubt.

With reference to the travel of Eastern Tennessee, I shall only remark, that the whole distance from Nashville to New Orleans, would be eight hundred and sixty-three miles; against twelve hundred and ninety eight, by the Cumberland, Ohio, and Mississippi rivers, and the time, two days and a half, against six days and a half. Some recent demonstrations in Tennessee, make it evident, that the day is not remote when the Western and Atlantic railroad of this state, will form a junction at the Tennessee river, with a railroad penetrating to Nashville. The distances are as follows:

	Miles.	
Nashville to Tennessee river	142	Railroad.
Tennessee river to Atlanta	130	"
Atlanta to Macon	101	"
Macon to Pensacola	300	"
Pensacola to New Orleans	190	Steamer.
Total	863	

To show that this route could not fail to divert a large travel from the Mississippi river, and at the same time to prove its superiority over a route commencing at either Pensacola or Mobile—for it makes but little difference which, as to the time and distance to New Orleans, and terminating at Charleston, I submit as follows:

NEW ORLEANS TO CHARLESTON, VIA. MONTG'Y, ETC.

	Miles.	Fare.	Hours.	
N. O. to Pensacola	190	$7 00	Time 16	Steam.
Pensacola to Montg'y	160	6 40	" 9	Rail'd
Montg'y to W. Point	95	4 75	" 6	"
W. Point to Atlanta	90	3 60	" 5	"
Atlanta to Augusta	171	7 00	" 11¼	"
Augusta to Charleston	136	6 75	" 7¾	"
Totals	842	35 50	55	

NEW ORLEANS TO SAVANNAH, VIA SOUTH-WESTERN RAILROAD AND MACON.

	Miles.	Fare.	Hours.	
N. O. to Pensacola	190	$7 00	Time 16	Steam.
Pensacola to Macon	300	12 00	" 16¼	R. R.
Macon to Savannah	190	7 00	" 11¾	"
Totals	680	26 00	44	

Showing in favor of the route, via. South-Western railroad and Macon, to Savannah—one hundred and sixty-two miles in distance, nine dollars and fifty cents in cost, and eleven hours in time.

It will be seen that these comparisons are based, not only on the completion of the South-Western railroad to the gulf, but also on the possible contingency of the completion of the remaining links in the other chain—as from Atlanta to the Montgomery railroad, and from that road to either Mobile or Pensacola.

Adding to the above, eight hundred and twenty miles for the distance from Savannah to New York, twenty-five dollars fare, and sixty hours run, we have fifteen hundred miles, fifty-one dollars, and one hundred and four hours, as the distance, cost, and time, via the South Western railroad, from New Orleans to New York; or but one half the time consumed by the present route, viz, eight days. The fare and time would readily admit of further reduction.

The above must show the preceding grounds—that not only a large amount of New Orleans and New York travel would take this direction, but that it would of necessity pass over the South-Western railroad—to be entirely tenable.

Bt in looking at the through travel, New Orleans should not alone command attention. The moment the gulf is reached, a world, if I may so speak, is opened out to view. From New Orleans to the Isthmus of Tehuantepec and Yucatan, the coast of the gulf describes a circle, of which Pensacola might be considered the centre, and which, as the only naval station in the south, is itself a place of much importance. The extent to which the government would find it convenient to avail itself of the work, could not fail to contribute largely to its income. In view of the advantages that would accrue to the government, it is confidently believed, by many persons capable of forming an opinion, that it will be found ready to contribute, by a donation of lands, to the accomplishment of the enterprise.

I have already remarked, that a line of steamers is about to be established between Savannah and New York, arrangements for which have been perfected. It will be proper to mention in this connection, that the run from Savannah to New York can be made, although the distance is somewhat greater, in nearly the same time as from Charleston. This arises from the superiority of the harbor of Savannah, the bar at the entrance of which, will admit vessels of the largest class at all stages of the tide; while it not unfrequently happens, that vessels are compelled to wait, and select a favorable moment to get to sea from the harbor of Charleston, or to effect an entrance.

On this subject, I beg leave to call attention to certain extracts from the "Savannah Georgian" and "Republican" newspupers, which will be found in a supplement to this report. I would also call attention to an article extracted from the "Savannah Georgian," signed "A Friend to the South-Western Railroad,"—which, it may not be improper to say, was contributed by R. R. Cuyler, Esq., the able president of the Central railroad and banking company. Other papers of interest are likewise presented in the supplement, together with the tables already alluded to, and some to which no reference has been made, but to which attention is directed.

In conclusion, permit me, sir, to congratulate you on the prospect, judging from the zeal manifested, of the vigorous prosecution and early completion of the South-Western railroad.

Yours, very respectfully,
F. P. HOLCOMB, *Civil Engineer.*

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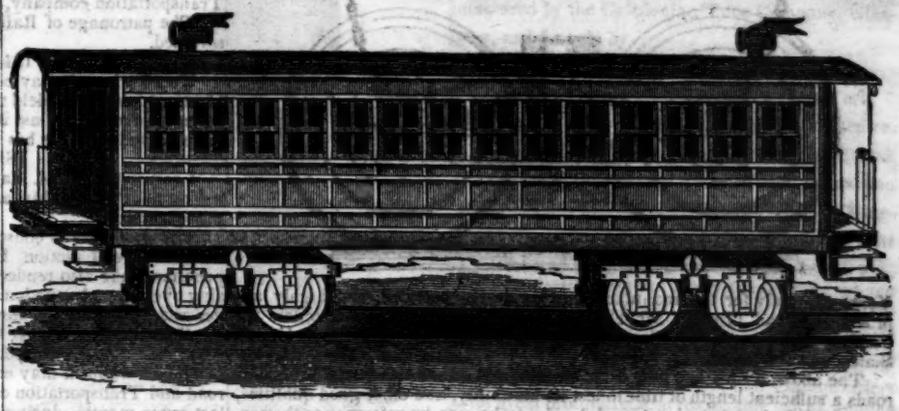

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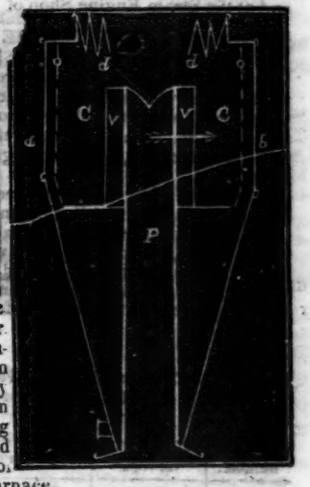

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These Arresters are constructed on an entirely different principle from any heretofore offered to the public. The form is such that a rotary motion is imparted to the heated air smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits:

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich.; G. B. Fisk, President Long Island Railroad, Brooklyn.

Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city or to Hinckly & Drury, Boston, will be promptly executed. FRENCH & BAIRD.

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms. *Philadelphia, Pa., April 6, 1844.*

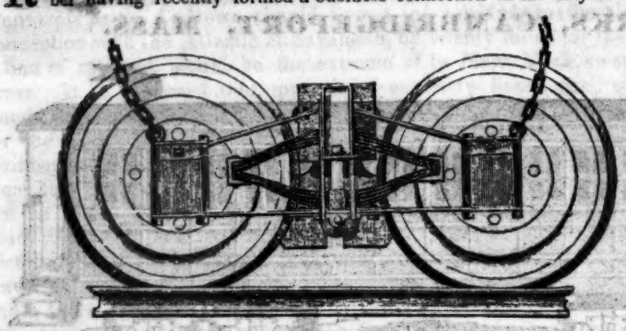
*** The letters in the figures refer to the article given in the *Journal* of June, 1844. ja15

LOCOMOTIVE AND CAR AXLES. The Subscribers are now prepared to receive orders for the well known and approved *Reading Locomotive and Car Axles*—drawn to any required pattern from *Bloom Iron only.* Address

SAM'L KIMBER & CO.,
Willow Street Wharf,
1tf Philadelphia, Pa.

RAILROAD IRON.—THE "MONTOUR Iron Company," Danville, Pa., is prepared to execute orders for the heavy Rail Bars of any pattern now in use, in this country or in Europe, and equal in every respect in point of quality. Apply to MURDOCK, LEAVITT & CO.,
Agents.
1y48 77 Pine St., New York.

RAY'S EQUALIZING RAILWAY TRUCK.—THE SUBSCRIBER having recently formed a business connection in the City of New



York, expressly for the manufacture of the newly patented and highly approved Railroad Truck of Mr. Fowler M. Ray, is ready to receive orders for building the same, from Railroad Companies and Car Builders in the United States, and elsewhere.

The above Truck has now been in use from one to two years on several roads a sufficient length of time to test its durability, and other good qualities, and to satisfy those who have used it, as may be seen by reference to the certificates which follow this notice.

There have been several improvements lately introduced upon the Truck, such as additional springs in the bolster of passenger cars, making them delightful riding cars—adapting it to tenders, trucks forward of the locomotive, and freight cars, which, with its original good qualities, make it in all respects the most desirable truck now offered to the public.

Orders for the above, will, for the present, be executed at the New York Screw Mill, corner 33d street and 3d avenue, (late P. Cooper's rolling mills) and at the Steam Engine Shop of T. F. Secor & Co., foot of 9th street, East river, (of which firm the subscriber was late a partner) under the immediat supervision of Mr. Ray himself.

Several sets of trucks containing the latest improvements have recently been turned out for the New York and Erie railroad, and the New Jersey Transportation company, which may be seen upon said roads.

The patronage of Railroad Companies and Car Builders is respectfully solicited.

New York, May 4, 1846. W. H. CALKINS, and Others.

To all whom it may concern:—This is to certify that the New Haven, Hartford and Springfield railroad co., have had in use six sets of F. M. Ray's patent trucks for the last 20 months, during which time it appears to me, they have proved to be the bes and most economical truck now in use.

[Signed,] WILLIAM ROE, Sup't of Power.

I certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Philadelphia and Reading railroad for some time past, under a passenger car.

For simplicity of construction, economy in cost, lightness of material, and extreme ease of motion, I consider it the best truck we have ever used. Its peculiar make also renders it less liable to be thrown off the track, when passing over any obstruction. We intend using it extensively under the passenger and freight cars of the above road.

Reading, Pa., October 6, 1845. [Signed,] G. A. NICOLL, Sup,t Transportation, etc., Philadelphia and Reading Railroad.

To all whom it may concern:—This is to certify that the N. Jersey Railroad and Transportation company have used Fowler M. Ray's Truck for the last seven months, during which time it has operated to our entire satisfaction. I have no hesitation in saying that it is the simplest and most economical truck now in use.

[Signed,] T. L. SMITH,

Jersey City, November 4, 1845. N. Jersey Railroad and Transp. Co.

This is to certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Long Island railroad for the last year, under a freight car.

For simplicity of construction, economy in cost, lightness of material and ease of motion, I consider it equal to any truck we have in use.

Long Island Railroad Depot, Jamaica November 12, 1845. } [Signed,] JOHN LEACH, Sup't Motive Power.

1y19

ENGLISH PATENT WIRE ROPES—FOR THE USE OF MINES, RAILWAYS, ETC.—for sale or imported to order by the subscriber.

These Ropes are manufactured on an entirely different principle from any other, and are now almost exclusively used in the collieries and on the railways in Great Britain, where they are considered to be greatly superior to hempen ones, or iron chains, as regards safety, durability and economy. The plan upon which they are made effectually secures them from corrosion in the interior, as well as the exterior of the rope, and gives a greater compactness and elasticity than is found in any other manufacture.

Many of these ropes have been in constant operation in the different mines in England, and on the Blackwall and other inclined planes, for three and four years, and are still in good condition.

They have been applied to almost every purpose for which hempen ropes have been used—mines, heavy cranes, standing rigging, window cords, lightning conductors, signal halyards, tiller ropes, etc. Reference is made to the annexed statement for the relative strength and size. Testimonials from the most eminent engineers in England can be shown as to their efficiency, and any additional information required respecting the different descriptions and application will be given by

ALFRED L. KEMP,
75 Broad street, New York, sole agent in the United States.

Statement of Trial made at the Woolwich Royal Dock Yard, of the Patent Wire Ropes, as compared with Hempen Ropes and Iron Chains of the same strength.—October, 1841.

WIRE ROPES.				HEMPEN ROPES.			CHAINS.		STRENGTH
Wire gauge number.	Circumference of rope.	Weight per fathom.		Circumference of rope.	Weight per fathom.		Weight per fathom.	Diameter of iron.	Tons.
	INCH.	LBS.	OZ.	INCH.	LBS.	OZ.	LBS.	INCH.	
11	4¼	13	5	10	24	–	50	15-16	20
13	3¼	9	3	8¼	16	–	27	11-16	13¼
14	3¼	6	11	7¼	12	8	17	9-16	10¼
15	2¾	5	9	6¼	9	4	13¼	1-2	7¼
16	2¾	4	3	6	8	8	10¼	7-16	7

N.B. The working load, with a perpendicular lift, may be taken at 6 *cwt. for every lb. weight per fathom, so that a rope weighing* 5 *lbs. per fathom would safely lift* 3360 *lbs., and so on in proportion.* 1y24

RAILROAD SCALES.—THE ATTENTION of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of 20 years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.
Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
Philadelphia, Pa.
1y26

NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee
G. A. NICOLLS,
Reading, Pa.
ja46

TO RAILROAD COMPANIES AND MANUFACTURERS of railroad Machinery. The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,
a45 N. E. cor. 12th and Market sts., Philad., Pa.

LAP—WELDED
WROUGHT IRON TUBES
FOR
TUBULAR BOILERS,
FROM 1 1-4 TO 6 INCHES DIAMETER,
and
ANY LENGTH, NOT EXCEEDING 17 FEET.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,
Patentee.
28 Platt street, New York.

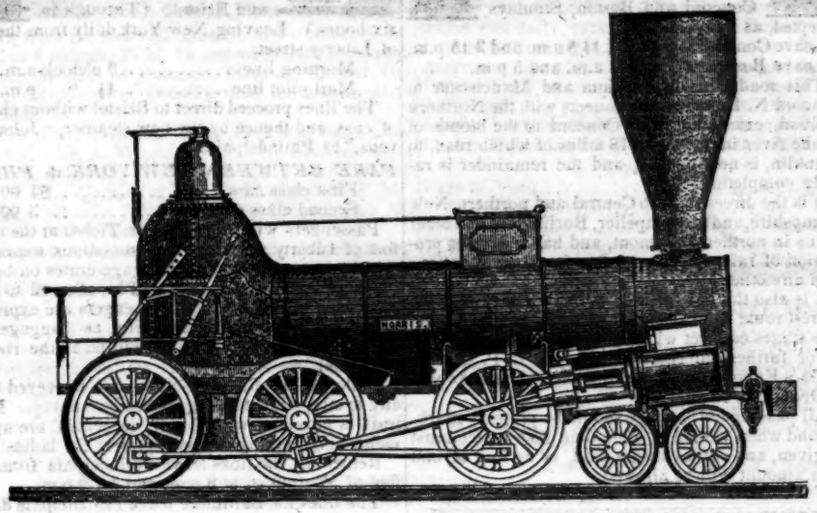
PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

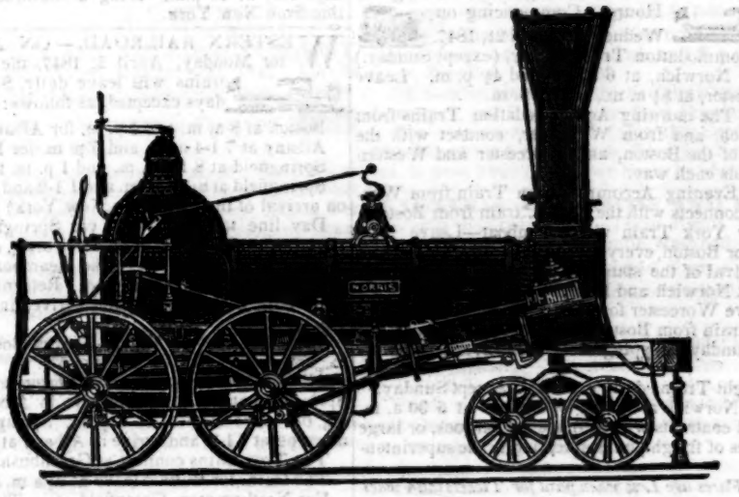
Albany Iron and Nail Works, Troy, N. Y.

The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co., Boston. ja45

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





MANUFACTURE to order Locomotive Steam Enginea of every plan or size.

Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusunl advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS & BROTHERS.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Paterson, N. J., or 60 Wall street, N. York.

THE SUBSCRIber has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc.

ANDREW MENEELY.
West Troy, May 12, 1847. 1y*21

PIG AND BLOOM IRON.—THE SUBSCRIbers are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,
12tf Vine St. Wharf, Philadelphia.

LAP-WELDED WROUGHT IRON TUBES for Tubular Boilers, from 1¼ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by

IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 28tf

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SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engagep in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent*,
1y Albany Iron and Nail Works,

THE SUBSCRIBERS ARE PREPARED TO exrcute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

REEVES, BUCK & CO.,
Philadelphia.
ROBERT NICHOLS, Agent,
26tf No. 79 Water St., New York.

CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,
Nov. 10, 1847. [tf.] Philadelphia, Penna.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention.

ANDREW C. GRAY,
a45 President of the Newcastle Manuf. Co.

CONNECTION BETWEEN THE BOSTON and Lowell and the Boston and Maine Railroads. On and after April 1st, 1847, passenger trains between these two roads, will run as follows, viz:

Leaving Lowell at 7. 11 1-4 a.m., and 2 1-2, 4 1-2, and 6 1-2 p.m., to connect at the junction in Wilmington with the eastward trains—at 7 a.m. and 2 1-2 p.m. with those to Portland; at 4 1-2 p.m. to Great Falls only, with a detention of 45 minutes at the junction, and at 11 1-4 a.m. and 6 1-2 p.m. to Haverhill only. Leaving the junction in Wilmington, for Lowell, at about 7 1-4 a.m. on arrival of the morning train from Haverhill; at about 9 a.m., on arrival of the morning trains from Great Falls. At about 11 3-4 a.m., on arrival of the morning train from Portland. At about 5 p.m. on arrival of the afternoon trains from Haverhill. At about 7 1-4 p. m, on arrival of the afternoon train from Portland.

WALDO HIGGINSON, Agent

BOSTON AND MAINE RAILROAD.
Upper Route, to Portland and the East.

WINTER ARRANGEMENT,
Commencing October 4, 1847.

PORTLAND TRAINS.

Leave Boston at 7 A.M. and 2½ P.M.
Leave Portland at 7½ A.M. and 3 P.M.

GREAT FALLS TRAIN.

Leave Boston at 3½ P.M.
Leave Great Falls at 6½ A.M.

LAWRENCE TRAINS.

Leave Boston at 7, 11½ a.m., 2½, 3½, 5½ p.m.
Leave Lawrence at 7, 8½, 11 a.m., 3½, 6½ p.m.

HAVERHILL TRAINS.

Leave Boston at 11½ A.M. and 5½ P.M.
Leave Haverhill at 7 A.M. and 3½ P.M.

READING TRAINS.

Leave Boston at 8½ A.M. and 6½ P.M.
Leave Reading at 6·50 A.M. and 1½ P.M.

MEDFORD BRANCH TRAINS.

Leave Boston at 7½, a.m., 12 m., 2½, 4½, 6 p.m.
Leave Medford at 7, 8½, a.m., 1½, 3½, 5 p.m.

The Depot in Boston is on Haymarket Square.
1y31 CHAS. MINOT, *Sup'r.*

BOSTON AND PROVIDENCE RAILroad. Passenger Notice. Summer Arrangement. On and after Monday, April 5, 1847, the Passenger Trains will run as follows:

Steamboat train via Stonington—Leaves Boston every day, except Sunday, at 5 o'clock p.m.

Accommodation Trains—leave Boston at 7 and 10½ a.m. and 4 p.m., and Providence at 7½ and 10½ a.m. and 4½ p.m.

Dedham trains, leave Boston at 8 a.m., 12½, 3½, 6½ and 9 p.m., Leave Dedham at 7 and 9½ a.m. and 2½, 5½ and 8 p.m.

Stoughton trains, leave Boston at 11½ a.m. and 5½ p.m. Leave Stoughton at 7 10 a.m. and 3½ p.m.

All baggage at the risk of the owners thereof.
25tf W. RAYMOND LEE, *Sup't.*

NEW YORK & HARLEM RAILROAD CO.—Summer Arrangement.—On and after Tuesday, June 1st, 1847, the cars will run as follows, until further notice. Up trains will leave the City Hall for—

Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m. Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 48 a.m. and 4. 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS, the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will precede each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

CONCORD RAILROAD.—PASSENGER Trains in connection with the Lowell & Nashua Railroads, run daily between Concord and Boston, Sundays excepted, as follows. viz:

Leave Concord at 5 40 and 11 5 a.m. and 3 15 p.m.
Leave Boston at 7 and 11 a.m. and 5 p.m.

This road runs by Nashua and Manchester to Concord N. H., where it connects with the Northern railroad, extending from Concord to the mouth of White river in Vermont, 18 miles of which road, to Franklin, is now opened, and the remainder is rapidly completing.

It is the direct route to Central and northern New Hampshire, and to Montpelier, Burlington, and other towns in northern Vermont, and has a greater proportion of railroad conveyance in those directions than any other line.

It is also the British Steam Mail Line, and the nearest route from Boston to the Canadas. Numerous stages connect with all parts of the road.

For further information, apply at B. P. Cheney & Co.'s Express office, No. 8 Court St., and Averill & Dean, No. 15 Elm St.

All passengers' baggage should be properly marked, and when valued at more than $50, notice must be given, and extra charges paid, or no loss beyond such amount will be allowed.
26tf N. G. UPHAM, Supt.

NORWICH AND WORCESTER RAILRoad. Summer Arrangement. Change of Hours. Commencing on Wednesday, April 21, 1847.

Accommodation Trains, daily, (except Sunday.) Leave Norwich, at 6 a. m., and 4½ p. m. Leave Worcester, at 8½ a. m., and 4½ p. m.

☞ The morning Accommodation Trains from Norwich, and from Worcester, connect with the trains of the Boston, and Worcester and Western railroads each way.

The Evening Accommodation Train from Worcester connects with the 2½ p.m. train from Boston.

New York Train via Steamboat—Leave Norwich for Boston, every morning, except Monday, on the arrival of the stamboat from New York, stopping at Norwich and Danielsonville.

Leave Worcester for New York, upon the arrival of the train from Boston, at about 6½ p.m., daily, except Sunday, stopping at Danielsonville and Norwich.

Freight Trains daily each way, except Sunday.—Leave Norwich at 7, and Worcester at 6 30 a. m. Special contracts will be made for cargoes, or large quanties of freight, on application to the superintendent.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜
32 1v J. W. STOWELL, Sup't

LONG ISLAND RAILROAD COMPANY. Summer Arrangement. On and after Monday May 1st, trains will run as follows, except Sundays:

Leave—Brooklyn at 9 1-2 a.m. for Farmingdale, 1 1-2 p.m. for Greenport, at 4 p.m. for Farmingdale.

Leave Farmingdale at 7 a.m for Brooklyn, 12 m. do., at 3 1-4 do. do.

Leave Greenport at 8 1-2 a.m. for Brooklyn.

Leave Jamaica at 8 a.m. for Brooklyn, at 1 p.m. do., at 4½ p.m do.

On Saturdays, a train will leave Brooklyn for Yaphank, at 4 p.m. Leave Yaphank, on Mondays for Brooklyn at 5 1-2 a.m.

On and after May 15th, and until September 1st, 1847, a train will leave Jamaica at 7 a.m. for Brooklyn—leave Brooklyn at 6 p.m. for Jamaica, and will land and receive passengers at any place between Brooklyn and Jamaica.

On Sundays—leave Brooklyn at 8 1-2 a.m. for Farmingdale; leave Farmingdale at 4 p. m. for Brooklyn.

Freight Trains—leave Brooklyn at 10 a.m. for Greenport; leave Greenport at 12 m. for Brooklyn.

Baggage crates will be in readiness at the foot of Whitehall street, to receive baggage for the several trains, 30 minutes before the hour of starting from the Brooklyn side.

The steamer "Statesman," Captain Nash, leaves Greenport for Sag Harbor on the arrival of the Accommodation train from Brooklyn.
5tf DAVID S. IVES, Sup't.

NEW YORK AND PHILADELPHIA RAILroad line—direct. Via Newark, New Brunswick, Princeton, Trenton, and Bristol. (Through in six hours.) Leaving New York daily from the foot of Liberty street.

Morning line.....9 o'clock a.m.
Mail pilot line.....4½ " p.m.

The lines proceed direct to Bristol without change of cars, and thence by the new steamer, "John Stevens," to Philadelphia.

FARE BETWEEN NEW YORK & PHILA.
First class cars.....$4 00
Second class cars..... 3 00

Passengers will procure their *Tickets* at the office foot of Liberty st., where a commodious steamboat will be in readiness with Baggage-crates on board.

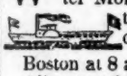
Fifty pounds of baggage will be allowed to each passenger in this line, and passengers are expressly prohibited from taking anything as baggage but their wearing apparel, which will be at the risk of the owner.

Philadelphia Baggage-crates are conveyed from city to city, without being opened by the way. Each train is provided with a car, in which are apartments and dressing rooms expressly for ladies' use

Returning, the lines leave Philadelphia from the foot of Walnut st. at 9 a.m, and 4 1-2 p.m.

The lines for Baltimore leave Philadelphia daily except Sundays, at 8 a.m., 3½ and 10 p.m., and Sundays only at 10 p.m.—being a continuation of the line from New York. 25tf

WESTERN RAILROAD.—ON AND AFter Monday, April 5, 1847, the passenger trains will leave daily, Sundays excepted, as follows:



Boston at 8 a. m. and 4 p. m. for Albany.

Albany at 7 1-4 a. m. and 5 p. m. for Boston.

Springfield at 8 1-2 a. m. and 1 p. m. for Albany

Springfield at 8 1-2 a. m. and 1 1-2 and 3 p. m. (or on arrival of the train from New York) for Boston.

Day line to New York, via Springfield.—The steamboat train leaves Boston at 6 a. m., and arrives in New York at 7 p. m., by the steamboats Traveller, New York, or Champion. Returning, leaves New York at 6 1-4 a. m., and arrives in Boston at 7 p. m.

Night line to New York.—Leaves Boston at 4 p. m., and arrives in New York at 5 a. m.

Albany and Troy.—Leave Boston at 8 a. m., Springfield at 1 p. m., and arrive in Albany at 6 p. m.; or, leave Boston at 4 p.m., Springfield next morning at 8 1-2, and arrive in Albany at 1 1-2 p.m.

The Troy trains connect at Greenbush.

The trains for Buffalo leave at 7½ a.m. and 7 p.m.

For Northampton, Greenfield, etc.—The trains of the Connecticut River Railroad leave Springfield at 8 1-4 a.m., 1 and 3 p.m., and passengers proceed directly on to Brattleboro', Windsor, Bellows Falls, Walpole, Hanover, Haverhill, etc.

For Hartford.—The trains leave Springfield on the arrival of the trains from Boston.

The trains of Pittsfield and North Adams Railroad leave Pittsfield on the arrival of the trains from Boston.

N. B.—No responsibility assumed for any baggage by the passenger trains, except for wearing apparel not exceeding the value of fifty dollars, unless by special agreement.

JAMES BARNES, Sup't and Eng'r.
C. A. SEAD, Agent, 27 State street, Boston.

GREAT SOUTHERN MAIL LINE! VIA Washington city, Richmond, Petersburg, Weldon and Charleston, S. C., direct to New Orleans. The only Line which carries the Great Southern Mail, and Twenty-four Hours in advance of Bay Line, leaving Baltimore same day.

Passengers leaving New York at 4½ P.M., Philadelphia at 10 P.M., and Baltimore at 6½ A.M., proceed without delay at any point, by this line, reaching Richmond in *eleven*, Petersburg in *thirteen and a half hours*, and Charleston, S. C., in *two days* from Baltimore.

Fare from Baltimore to Charleston.....$21 00
" " " Richmond..... 6 60

For Tickets, or further information, apply at the *Southern Ticket Office*, adjoining the *Washington Railroad Office*, Pratt street, Baltimore, to
1y14 STOCTON & FALLS, Agents.

NEW YORK AND ERIE RAILROAD LINE SUMMER ARRANGEMENT. Fur passengers, twice each way daily, (except Sunday,) leave New York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

FOR MILK—Leave Otisville at 5½ o'clock, morning and evening.

FOR FREIGHT—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains leaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

2 1tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Springfield at 2½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad.....84 miles.

From Springfield to Bellefontaine by stage, over a good Summer road.....32 "

From Bellefontaine to Sandusky city by railroad.....102 "

FARE—From Cincinnati to Lebanon....$1 00
" " " Xenia..... 1 50
" " " Springfield.. 2 00
" " " Columbus... 4 00
" " " Sundusky city 7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conducior or agent, and freight paid at of a passage for every $500 in value over that amount.

47tf W. H. CLEMENT, *Sup't.*

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at.....9 a.m. and 3½ p.m.
Arrives at.....9 a.m. and 6½ p.m.
Leaves York at.....5 a.m. and 3 p.m.
Arrives at.....12½ p.m. and 8 p.m.
Leaves York for Columbia at..1½ p.m. and 8 a.m.
Leaves Columbia for York at..8 a.m. and 2 p.m.

FARE.

Fare to York.....$1 50
" Wrightsville..... 2 00
" Columbia..... 2 12½
Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg.....$9
Or via Lancaster by railroad..... 10
Through tickets to Harrisburg or Gettysburg.. 3

In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at.....5½ p.m.
Returning, leaves Owing's Mills at.....7 a.m.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

LEXINGTON AND OHIO RAILROAD. Trains leave Lexington for Frankfort daily, at 5 o'clock a.m., and 2 p.m. Trains leave Frankfort for Lexington daily, at 8 o'clock a.m. and 2 p.m. Distance, 28 miles. Fare $1 25.

On Sunday but one train, 5 o'clock a.m. from Lexington, and 2 o'clock p.m. from Frankfort.

The winter arrangement (after 15th September to 15th March) is 6 o'clock a.m. from Lexington, and ma. 9. from Frankfort, other hours as above. 351y

CENTRAL AND MACON AND WESTERN Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlaniic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	To Atlanta.	To Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20	pr. 100 lbs. 35
Crockery, per cubic foot	0 15	" " 35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

BALTIMORE AND OHIO RAILROAD. MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry—with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M. from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

CENTRAL RAILROAD—FROM SAVANNAH to Macon. Distance 190 miles.

This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally... 50 cts. per hundred.
On measurement goods..... 13 cts. per cubic ft.
On brls. wet (except molasses and oil).....$1 50 per barrel.
On brls. dry (except lime)... 80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery..... 40 cts. per hundred.
On hhds. and pipes of liquor, not over 120 gallons.....$5 00 per hhd.
On molasses and oil.....$6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,
y40 Gen'l. Sup't. Transportation.

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily.....$26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia..... 22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

r25 JOHN KING, Jr, *Agent.*

THE WESTERN AND ATLANTIC Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Railroad.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.
Atlanta, Georgia, April 16th, 1846. 1y1

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for 1847.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3 50 and	$3 00
" " Reading,	58	2 25 and	1 90
" Pottsville "	34	1 40 and	1 20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1847.

Summer Arrangement.

Philadelphia for Baltimore...8 a.m. and 10 p.m.,
Baltimore for Philadelphia...9 a.m. and 8 p.m.
Connecting with Mail Lines North, South & West.

On Sundays, only the 10 *P. M. Lines run.*

The Boat Lines, via Newcastle & Frenchtown R.R.
Leave Philadelphia at 3½ p.m. } No line on Sun-
Leave Baltimore at 3 p.m. } day.

Accommodation Trains between Philadelphia & Wilmington.—Philadelphia to Wilmington, 8 a.m., *mail*, 12½ p.m., 4 p.m., 7 p.m., 10 p.m. *mail*. Wilmington to Philadelphia, 7 a.m., 1 p.m., *mail*, 4½ p. m., 7 p.m., 12½ a.m., *night mail*.

J. R. TRIMBLE,
2tf *Engineer and General Superintendent.*

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.

This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.

		Between Augusta and Dalton. 271 miles.	Between Charleston and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot.....	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 40	0 65
	Cotton, per 100 lbs.....	0 45	0 7
	Molasses, per hogshead.	8 50	13 50
	" " barrel....	2 50	4 25
	Salt per bushel.....	0 18	
	Salt per Liverpool sack..	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.

Augusta, Ga., *July* 15, 1847. 44*1y

RATES OF FREIGHT

On CHANDLER'S Through Transportation Line, between Charleston, S. C., or Savannah, Ga., and Decatur, Ala., and Knoxville, Tenn., and all intermediate points on the Tennessee River, viz:

Between Macon	and Decatur and immediate points.	0 92½		1 54	1 05	0 81 0 86
	and Knoxville & intermediate points	0 92½		1 54	1 10	0 76
	and Chattanooga.					0 61
Between Augusta	and Decatur and intermediate points.	$0 24		1 70	1 15	0 85 0 90
	and Knoxville & intermediate points.	$0 24		1 70	1 20	0 80
	and Chattanooga.					0 65
Between Charleston or Savannah	and Decatur and intermediate points.	$0 32		2 20	1 35	1 05 1 10
	and Knoxville & intermediate points.	$0 32		2 20	1 40	1 00
	and Chattanooga.					$0 85

1st class.—Boxes of Hats, Bonnets and Furniture per foot.....
2d class.—Boxes and Bales of Dry Goods, Shoes, Saddlery, Glass, Paints, Oils, (in cans) Drugs, Confectionaries, Shovels, Spades, Scythes, Smiths' Bellows, Baskets, Tubs, Sifters, Brooms and other light articles, per 100 lbs..
3d class.—Molasses, Sugar, Coffee, Liquor, Bagging, Rope, Cheese, Tobacco, Leather, Feathers, Hides, Wool, Copper, Tin, Sheet-iron, Nails, Casks, or Crates of Crockery, Hardware, and other heavy articles not enumerated below.
4th class.—Flour, Bacon, (in casks or boxes) Pork, Beef, Lard, Tallow, Butter, Beeswax, Bales of Rags, Ginseng, Green and Dried Fruit, (in casks or sacks) Pig-iron and Linseed Oil, per 100 lbs.....
Cotton. Per 100 lbs.....

Merchandize shipped from any of the northern ports, must be consigned to R. R. AGENT, CHARLESTON, S. C., or R. R. AGENT, SAVANNAH, GA.: and every package must be marked, care of B. CHANDLER, Chattanooga.

Charges will accompany the goods, and be collected by the boats on the Tennessee river, when delivered to the owner or consignee

No preference in the way of despatch, will be given to any produce intended for their line, but each lot will be sent off as it is received.

The warehouse of the undersigned will be enlarged during the summer, and an apparatus attached for hoisting or lowering freight to the river, without soil or injury.

He will have a train of wagons under his entire control, sufficient to conduct the fall business with great despatch.

B. CHANDLER.

Chattanooga, Tenn., July 1, 1847.

REGULAR RATES BETWEEN ATLANTA AND CHARLESTON OR SAVANNAH.

First class, per foot.....	$0 20
Second class, per 100 lbs.....	1 20
Cotton, per 100 lbs.....	0 55
Third class, per 100 lbs.....	0 60
Fourth class, per 100 lbs.....	0 50

DEAN, PACKARD & MILLS,

MANUFACTURERS OF ALL KINDS OF

RAILROAD CARS,

SUCH AS

PASSENGER, FREIGHT AND CRANK CARS,

— ALSO —

SNOW PLOUGHS AND ENGINE TENDERS OF VARIOUS KINDS.

CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and

SHAFTING FOR FACTORIES.

☞ *The above may be had at order at our Car Factory,*

REUEL DEAN,
ELIJAH PACKARD, } SPRINGFIELD, MASS.
ISAAC MILLS,
1y48

RAILROAD IRON—800 TONS OF THE latest and most improved pattern of T Rail—weighing about 60 lbs. to the yard, for sale by

BOORMAN, JOHNSTON & CO.,
1m ja 1 119 Greenwich St., New York.

ENGINEERS and MACHINISTS.

THOMAS PROSSER, 28 Platt St. N. Y. (*See Adv.*)
J. F. WINSLOW, Albany Iron and Nail Works Troy, N. Y. (*See Adv.*)
TROY IRON AND NAIL FACTORY, H. Burden, Agent. (*See Adv.*)
ROGERS, KETCHUM & GROSVENOR, Patterson, N. J. (*See Adv.*)
S. VAIL, Speedwell Iron Works, near Morristown, N. J. (*See Adv.*)
NORRIS, BROTHERS, Philadelphia Pa. (*See adv.*)
FRENCH & BAIRD, Philadelphia. (*See Adv.*)
NEWCASTLE MANUFACTURING COMPANY, Newcastle, Del. (*See Adv.*)
ROSS WINANS, Baltimore, Md.
CYRUS ALGER & Co., South Boston Iron Co.
SETH ADAMS, Engineer, South Boston.
STILLMAN, ALLEN & Co., N. Y.
JAS. P. ALLAIRE, N. Y.
PHŒNIX FOUNDRY, N. Y.
ANDREW MENEELY, West Troy.
JOHN F. STARR, Philadelphia, Pa.
MERRICK & TOWNE, do.
HINCKLEY & DRURY, Boston.
C. C. ALGER, Stockbridge Iron Works Stockbridge, Mass.

AMERICAN RAILROAD JOURNAL.

OFFICE AT THE FRANKLIN HOUSE,
105 Chestnut Street,
PHILADELPHIA, PA.

This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

TERMS.—Five Dollars a year, in *advance.*

RATES OF ADVERTISING.

One page per annum.....	$125 00
One column "	50 00
One square "	15 00
One page per month.....	20 00
One column "	8 00
One square "	2 50
One page, single insertion.....	8 00
One column " "	3 00
One square " "	1 00
Professional notices per annum.	5